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Vol. XI

April 1919

No. IV

JAN 31 1921

South Dakota State College of Agriculture and Mechanic Arts

BULLETIN

Annual Catalog, 1918-1919

With Announcements for the Year 1919-20

Published Quarterly by

THE SOUTH DAKOTA STATE COLLEGE

Brookings, S. D.

Entered as second-class matter August 10, 1908, at the postoffice at
Brookings, S. D., under Act of July 16, 1904.

UNIVERSITY OF ILLINOIS

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Administrative Library

The College Bulletin

The South Dakota State College Bulletin is published quarterly by authority of the Regents of Education.

The Bulletin contains information in detail relative to the entrance requirements of the different courses of instruction, the schedules of study, lists of instructors of the institution and its administration, equipment, organizations, publications, funds, students' expenses, scholarships, etc.

The institution includes the following departments of instruction: Animal Husbandry, Dairy Husbandry, Agronomy, Horticulture and Forestry, Veterinary Medicine, Home Economics and Domestic Art, Mechanical Engineering, Electrical Engineering, Civil Engineering, English, Modern Languages, History and Political Science, Education, Mathematics and Astronomy, Physics, Botany, Entomology and Nature Study, Zoology, Chemistry, Pharmacy, Music, Art, Military Science and Tactics, Commercial Science, the Preparatory Department, and the School of Agriculture. Short Special courses of instruction are given in Agriculture, Dairying, Home Economics and Farm Engineering.

In addition to the instructional work the Agricultural Experiment Station and the Agricultural Extension Division are maintained at the College.

The College bulletins are sent free, postage paid, on request. The request should indicate the department concerning which information is desired.

For bulletins and other information address the President, State College, Brookings, South Dakota.

South Dakota State College of Agriculture and Mechanic Arts

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• 1919 •

JANUARY.

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College Calendar for 1919-1920

FIRST TERM

1919

- June 16-July 25—Six weeks Summer School.
September 22-23—Entrance examinations and registration.
September 24—Work of first term begins at 8 A. M.
October 27—Enrollment in the School of Agriculture.
November 27-28—Thanksgiving Recess.
December 19—Work of first term closes at 4:15 P. M.

SECOND TERM

1920

- January 3-5—Entrance examinations and registration.
January 6—Work of second term begins at 8 A. M.
March 24—Work of second term closes at 4:15 P. M.
March 25—School of Agriculture closes.

THIRD TERM

1920

- March 26-29—Entrance examinations and registration.
March 30—Work of third quarter begins at 8 A. M.
June 15—Commencement Day.

CALENDAR OF SHORT COURSES

- January 5-March 17—Special Creamery Course.
January 5-March 24—Course in Farm Mechanics.

REGENTS OF EDUCATION

Hon. T. W. Dwight.....	Sioux Falls
Hon. August Frieberg.....	Beresford
Hon. J. W. Campbell.....	Huron
Hon. T. D. Potwin.....	Lemmon
Hon. F. A. Spafford.....	Flandreau

Officers of the Board

Hon. T. W. Dwight.....	President
Hon. I. D. Aldrich.....	Secretary
Hon. G. H. Helgersen (State Treasurer).....	Treasurer

Regents' Committee for the College

Hon. T. W. Dwight	Hon. J. W. Campbell
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Statement of the Ownership, Management, Circulation, Etc.

of South Dakota State College of Agriculture and Mechanic Arts Bulletin, published quarterly at Brookings, South Dakota, required by the Act of August 24, 1912.

Name of	Postoffice Address.
Editor, G. L. Brown, Acting President.....	Brookings, South Dakota
Publisher, South Dakota State College of Agriculture and Mechanic Arts.....	Brookings, South Dakota
Owners, South Dakota State College of Agriculture and Mechanic Arts.....	Brookings, South Dakota
Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities: None.	

G. L. BROWN,
Acting President of College.

Sworn to and subscribed before me this 5th day of April, 1919.

(Seal) R. A. LARSON,
Notary Public.

(My commission expires June 14, 1921.)

Instructional Division

TEACHING STAFF

Note: The first date after the name indicates year of appointment to present position on the staff; the second date, in case the first does not do so, indicates the year of first appointment in the College. After the administrative officers the names are arranged alphabetically.

***ELWOOD C. PERISHO, 1914, President of the College.**

B. S., Earlham College, 1887; A. M., 1889; LL. D., 1913; M. S., University of Chicago, 1895.

GEORGE LINCOLN BROWN, 1918, 1897, Acting President, Dean of the Faculty; Professor of Mathematics.

B. S., University of Missouri, 1892; M. S., 1893; Ph. D., University of Chicago, 1900.

HUBERT BERTON MATHEWS, 1918, 1892, Assistant Dean of the Faculty; Professor Physics; Director Summer School.

B. S., South Dakota State College, 1892; M. S. 1899.

R. A. LARSON, 1901, Secretary of the College.

MIRIAM GERLACH, 1918, Adviser of Women.

A. B., University of Illinois, 1911.

MRS. BELLA BEARD, 1918, Superintendent Women's Dormitories.

MRS. DAPHNE SERLES, 1918, Registrar.

B. S. South Dakota State College, 1916.

THOMAS WHITFIELD BALDWIN, 1918, Professor of English.

A. B., Erskine College, 1909; A. M., Princeton University, 1914; Ph. D., 1916.

EDWARD R. BINNEWIES, 1916, 1913, Assistant Professor of Chemistry.

B. S., South Dakota State College, 1913; M. S., 1915.

*President Perisho was given leave of absence during 1918-19 to do war work. He resigned to go over seas in agricultural work in February, 1919, and President Willis E. Johnson, Ph. D., LL. D., was chosen in his stead to assume the position of president of the college, July 1, 1919.

JOHN A. BONELL, 1915, 1910, Assistant Professor of Mechanical Engineering.

BYRON BRIGGS BRACKETT, 1909, Professor of Electrical Engineering.

A. B., Syracuse University, 1890; A. M., 1893; Ph. D., Johns Hopkins University, 1897.

CHARLES HARVEY BRADY, 1915, Professor of Vocational Education.

B. S., Indiana Tri-State College, 1902; A. B., University of Indiana, 1907; A. M., Columbia University, 1912.

ADA B. CALDWELL, 1899, Professor of Industrial Art.

GUDRUN I. CARLSON, 1918, Professor of Home Economics.

B. S., Columbia University, 1915.

MANLEY CHAMPLIN, 1918, 1911, Associate Professor of Agronomy; Associate Agronomist, Experiment Station; Farm Crops Specialist, Extension Division.

B. S., South Dakota State College, 1909; M. S., 1914.

CARL CHRISTENSEN, 1914, 1906, Assistant Professor of Music.

ETHEL E. CLINE, 1918, Assistant Professor of Home Economics, in charge of Teacher Training.

B. S., Iowa State University, 1915.

***ROBERTSON COOK, 1910, 1908, Professor of Mechanical Engineering.**

M. E., University of Minnesota, 1902.

EVERETT L. DAKAN, 1918, Professor of Poultry Husbandry.

B. S. University of Missouri, 1916.

B. A. DUNBAR, 1918, 1911, Professor of Chemistry; Chemist Experiment Station.

A. B., Ohio Wesleyan University, 1891; A. M. 1892.

ROBERT BLACKWOOD FORSEE, 1901, Principal of the Preparatory Department.

Principal of Pedagogy, Western College (Mo.) 1888.

MAUDE A. GODDARD, 1914, 1903, Assistant Professor of Art.

NIELS EBBESEN HANSEN, 1895, Professor of Horticulture and Forestry; Vice Director and Horticulturist, Experiment Station.

B. S., Iowa Agricultural College, 1887; M. S., 1894; Sc. D., University of South Dakota, 1917.

*Absent on leave during 1918-1919.

ALBERT SPENCER HARDING, 1901, 1897, Professor of History and Political Science.

B. S., South Dakota State College, 1892; A. M., University of Nebraska, 1897.

HOWARD H. HOY, 1915, 1899, Associate Professor of Physics and Mechanical Engineering.

B. S., South Dakota Agricultural College, 1896; M. S. 1903.

ALBERT NASH HUME, 1911, Professor of Agronomy; Agronomist, Experiment Station.

B. S. A., Purdue University, 1900; M. S., 1902; Ph. D., Goettingen University, 1911.

JOSEPH GLADDEN HUTTON, 1911, Associate Professor of Agronomy; Associate Agronomist, Experiment Station; Soils Specialist, Extension Division.

B. S., University of Chicago, 1908; M. S. University of Illinois, 1910.

ARTHUR HENRY KUHLMAN, 1918, Associate Professor of Animal Husbandry; Associate Animal Husbandman, Experiment Station.

B. S., University of Wisconsin, 1910; M. S., 1916.

WILLIAM E. LATTIN, 1918, Assistant Professor of Mathematics.

A. B., University of South Dakota, 1908; A. M., University of Wisconsin, 1911.

CHARLES CLINTON LIPP, 1913, Professor of Veterinary Medicine; Consulting Veterinarian, Experiment Station; Director of the Animal Health Laboratory.

D. V. M., Ohio State University.

CHARLES LOCKE, 1918, Acting Professor of Pharmacy.

Ph. G., South Dakota State College, 1906.

CHRISTY WILLIAM MICHEL, 1912, Professor of Botany.

A. B., Litt. B., Ohio Wesleyan University, 1904; A. M., Harvard University, 1912.

SHIRLEY PUTNAM MILLER, 1910, 1905, Professor of Zoology and Rural Sanitation.

B. S., South Dakota State College, 1903; M. A. University of Minnesota, 1905.

***CLIFFORD N. MILLS, 1914, 1913, Assistant Professor of Mathematics.**

B. S., Franklin College, 1910; A. M., Indiana University, 1915.

*Absent part of year in army service.

W. ALBERT PETERSON, 1912, Assistant Professor of Music.

Mus. Bac., American Conservatory of Music, 1911.

GEORGE C. PHILLIPS, 1918, Adviser of Men.

B. S., South Dakota State College, 1909.

WILLIAM HOWARD POWERS, 1905, Librarian and Associate Professor of English.

A. B., Miami University, 1891; A. M., Harvard University, 1899.

CHARLES F. SCHLATTER, 1911, Professor of Commercial Science.

B. S., South Dakota State College, 1916.

***EARL R. SERLES, 1917, 1915, Professor of Pharmacy.**

Ph. G., South Dakota School of Pharmacy, 1911; B. S., South Dakota State College, 1915; M. S., 1917.

HARRY C. SEVERIN, 1909, Professor of Entomology and Nature Study; Entomologist, Experiment Station; State Entomologist.

B. A., University of Wisconsin, 1906; M. A., Ohio State University, 1908.

HALVOR CHRISTIAN SOLBERG, 1896, 1891, Professor of Mechanical and Steam Engineering.

B. S., South Dakota Agricultural College, 1891; B. M. E., Purdue University, 1895; M. E., 1896.

GEORGE ARTHUR STARRING, 1911, 1910, Professor of Journalism; Agricultural Editor.

A. B., Huron College, 1907.

****ERNEST D. STIVERS, 1913, Professor of Secondary Agricultural Education; Director of the Summer School.**

B. S., Iowa Agricultural College, 1901.

HENRIETTA J. TROMANHAUSER, 1918, Associate Professor of Modern Languages; In Charge of Spanish.

B. A., University of Chicago; Ph. D., Berlin; Heidelberg.

LOSEY J. WILLIAMS, 1919, Professor of Military Science and Tactics.

First Lieutenant P. S. U. S. A. retired.

ALBERT JONES WILLIS, 1913, Professor of Civil Engineering.

C. E., Lehigh University, 1905.

JAMES WILBUR WILSON, 1902, Professor of Animal Husbandry; Director and Animal Husbandman, Experiment Station.

B. S. A., Iowa Agricultural College, 1896; M. S. A. 1898.

*Absent part of year in army service.

**Resigned December 1, 1918.

CLINTON R. WISEMAN, 1918, Assistant Professor of Vocational Education in Agricultural Education and Acting Principal School of Agriculture.

B. S., University of Wisconsin, 1915.

THOMAS H. WRIGHT, JR., 1917, Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman and Dairy Bacteriologist, Experiment Station.

B. S. in Dairying, Iowa State College.

ANNA WURSTER, 1918, Associate Professor of Modern Languages; Acting Head of the Department.

B. S., M. S., Certificat de l'Universite' de l'Alliance Francaise; Medaille de l' Alliance Francaise.

ROBERT WYLIE, 1918, Assistant Professor of Dairy Husbandry and Assistant Dairy Husbandman, Experiment Station.

B. S. A., Ohio State University, 1915; A. M., University of Missouri, 1916.

GERTRUDE S. YOUNG, 1914, 1907, Assistant Professor of History and English.

A. B., University of Wisconsin, 1906.

INSTRUCTORS AND ASSISTANTS

FREEMAN ANDREWS, 1918, Instructor in Forging.

FRANCES GERTRUDE BROWN, 1917, Instructor in the School of Agriculture.

B. A., Carleton College, 1911.

ERNESTINE FIELDS, 1918, Instructor in Piano.

Graduate American Conservatory of Music, 1918.

MATTHEW FOWLDS, 1914, 1913, Assistant in Agronomy; Assistant in Crops, Experiment Station.

B. S., South Dakota State College, 1913.

***GEORGE GILBERTSON, 1914, Instructor in Entomology. . .**

B. S., South Dakota State College, 1914; M. S., 1918.

I. S. GIPE, 1918, Instructor in Wood Shops.

ANTON HOGSTAD, JR., 1917, Instructor in Pharmacy and Botany.

P. C., Philadelphia College of Pharmacy, 1914.

EDITH HUBBART, 1912, Assistant Librarian.

B. S., South Dakota State College, 1908.

*Absent part of year in army service.

NELLIE J. KENDALL, 1912, Instructor in English, School of Agriculture.

B. S., South Dakota State College, 1908.

LOUISE LOCKERLY LEATON, 1916, Instructor in Home Economics.

B. S., Illinois Wesleyan University, 1912.

HOWARD LOOMIS, 1910, Assistant and Analyst in Agronomy.

A. B., Albion College, 1909; M. S., South Dakota State College, 1916. .

ADA McCORDIC, 1918, Instructor in Mathematics.

B. A., Zion College, Chicago, 1906; A. M., University of Wisconsin, 1914.

GERTRUDE McKNIGHT, 1915, Instructor in the School of Agriculture.

JENNIE C. PETERSON, 1917, Instructor in the School of Agriculture.

B. Di., Iowa State Teachers College, 1909.

WILLIAM E. ROLLER, 1918, Instructor in Violin.

Mus. Bac., American Conservatory of Music, 1911.

CHARLES SAYLER, 1918, Instructor School of Agriculture.

***REGINALD C. SHERWOOD, 1916, 1914, Assistant Chemist, Experiment Station.**

B. S., South Dakota State College, 1914; M. S., 1916.

GLADYS MARY SLOCUM, 1918, Instructor in Commercial Science.

Nebraska School of Business, 1916.

GRACE SOMERS, 1918, Instructor in Home Economics, School of Agriculture.

B. S., South Dakota State College, 1913.

MATTIE STODDART, 1918, Assistant in Zoology.

B. S., South Dakota State College, 1917.

CATHERINE SWIFT, 1916, Instructor in Home Economics.

Graduate Stout Institute, 1913.

GEORGE S. TAYLOR, 1918, Instructor in Chemistry.

B. A., Hanover College, 1894.

RICHMOND W. TERRELL, 1918, Assistant in Dairy Husbandry.

B. S., Purdue University, 1918,

*Absent part of year in army service.

MRS. KATE WEBER, 1918, Instructor in Home Economics, School of Agriculture.

B. S., South Dakota State College, 1916.

***R. L. WELCH, 1916, Assistant in Mechanical Engineering.**

MALCOLM C. WHITE, 1918, Assistant Chemist, Experiment Station.

****ANN WILSON, 1918, Instructor in English.**

B. A., University of Wisconsin, 1916.

GRACE BENNETT WYNN, 1918, Instructor in Voice.

Mus. Bac., Columbia School of Music, 1918.

OTHER OFFICERS AND EMPLOYEES

George E. Purdy, Custodian of the Buildings and Grounds.

A. T. Larson, College Engineer.

FACULTY COMMITTEES

Faculty Committes will be announced at the beginning of the college year.

*Absent part of year in army service.

**Resigned April 1, 1918.

General Information

HISTORICAL SKETCH

Establishment.—An act of the Territorial Legislature approved February 21, 1881, provided that “an Agricultural College for the Territory of Dakota be established at Brookings, * * * provided that a tract of land of not less than eighty acres be secured and donated to the Territory of Dakota.”

The legislature of 1883 provided for the erection of the first building. This building, now known as the Central Building, was opened for use September 24, 1884.

The Enabling Act admitting the state of South Dakota, approved February 22, 1889, provided that 120,000 acres of land be granted for the use and support of the agricultural college, as provided in the acts of congress making donations of lands for such purpose. The acts of congress here referred to are, primarily, the act of July 2, 1862, known as the Morrill Act, providing that 30,000 acres of public land for each representative in congress be given to each state towards “the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts.”

By the Enabling Act of 1889 Congress granted to South Dakota for the Agricultural College 40,000 additional acres, in lieu of a grant that had been made to new states in 1841. Thus the total land grant for the Agricultural College was 160,000 acres.

In the Morrill Act of 1862, such colleges were spoken of as “Colleges of Agriculture and Mechanic Arts.” In order that the name might more nearly conform to the object for which the College was established, the legislature of 1907 changed the name from “The Agricultural College of South Dakota” to “The State College of Agriculture and Mechanic Arts.”

The *Experiment Station was organized in 1887, under the Hatch Act of Congress, which provided for the establishment of agricultural experiment stations in connection with agricultural colleges. These stations were established for the purpose of conducting experiments and research work in connection with all branches of the agricultural industries of the United States, due regard being paid to the varying conditions and needs of the respective states. It is also their object to aid in diffusing among the people useful and practical information on all subjects connected with agriculture. The South Dakota Station conducts its investigations chiefly along the following lines: Live stock, veterinary science, soils, field experiments, greenhouse work, trees and small fruits, and chemistry of plant growth and foods.

The Extension Division was established to carry to the people of the state the results of the work of the College, and also the approved methods as practiced by the most successful farmers in the different localities. From its earliest history the College has sent out members of its staff to help the people of the state by addressing meetings, acting as judges at fairs and for agricultural clubs, and in various other ways. The College, however, had no money available to conduct such work in a systematic way until 1914, when the Smith-Lever Act was passed by Congress providing \$10,000 annually to each state beginning with July 1, 1914, to be used for agricultural extension work by the State Colleges of Agriculture in cooperation with the United States Department of Agriculture. The act also provides that beginning with July 1, 1915, additional amounts which increase from year to year are to be given to the different states upon the condition that the states appropriate equal amounts to be used in connection with the national fund for extension work.

Sources of Income—A joint resolution passed by the legislature of 1890 accepted the lands granted in the enabling act. These lands were not at once assigned. The commissioner of Public Lands reported that 64,658 acres had been selected.

*See the index for references to additional information concerning the Agricultural Experiment Station and the Extension Division.

All have since been selected; very few have been sold. A small amount is received yearly as rental. The first income recorded was \$1,197.71, September 1, 1896. No school lands may be sold for less than ten dollars an acre. Up to June 30, 1918, 21,660 acres of this land had been sold at an average of \$20.83 per acre. When all the land is sold it will yield an endowment of approximately three million dollars.

The Morrill Act passed by Congress in 1890 provides a yearly appropriation for "the more complete endowment and support of colleges for the benefit of agriculture and mechanic arts." Under this act the College now receives from the general government the sum of \$25,000 per annum.

An act making appropriation for the Department of Agriculture, approved by Congress March 4, 1907, provides for the further endowment and support of these colleges. The bill, which was introduced by Senator Knute Nelson, of Minnesota, stipulates that the expenditure of the fund shall be governed in all respects by the provisions of the Morrill Act, and also that a portion of the money may be used to provide for the training of instructors in agriculture and mechanic arts. This act made an appropriation of \$5,000 for the year 1907-1908, which increased \$5,000 each year until it reached \$25,000 per annum. The College, therefore, receives \$50,000 annually from the National Government for instructional purposes.

The College also receives aid from the State, biennial appropriations being made by the legislature for maintenance and buildings.

The Hatch Act provides that the experiment stations should receive \$15,000 annually from the National Government. This amount has been increased by the provisions of the Adams Act of 1906, so that the experiment station now receives \$30,000 a year for maintenance.

Under the Smith-Lever Act, the College receives \$10,000 annually from the National Government for extension work. Under the same act during the present year the College will receive \$21,584.10 additional, on the condition that an

equal amount is provided by the state to be used with the national fund. The State Legislature appropriated \$38,000.00 to meet this fund for this fiscal year.

LOCATION, BUILDINGS AND EQUIPMENT

The Location.—The College is located upon an eminence one mile from the business center of Brookings, which has a population of about four thousand people. The city is situated on the Central Dakota Division of the Chicago and North-Western Railway, the Watertown branch making connection with the main line at this point.

Brookings is almost an ideal college town. It is lighted by electricity and has a complete water and sewer system. Its streets are lined with trees and its houses have well kept lawns abounding in ornamental shrubs and plants.

It is a city of clean morals. No saloon has been allowed within its limits for over thirty years.

The College Buildings and Grounds.—The college campus upon and about which the college buildings are placed is beautifully located on an eminence within the corporate limits of Brookings. It is ornamented with choice and tasteful varieties of trees and shrubs and laid out with necessary walks and drives. Adjoining on the rear are the horticultural gardens, and to the north and northwest is the college farm.

The oldest building on the campus, called the Central Building, was erected in 1884. This and the old North Building are given over to general class room and laboratory purposes.

The other old building recently known as the Experiment Station Building has been remodeled and now houses the Extension Division.

The Agricultural and Administration Building provides executive offices, an auditorium, laboratories, class rooms and offices for the various agricultural departments. This building has just been completed with a \$100,000.00 addition in which the Departments of Home Economics, Industrial Arts and Education are located.

The Physics-Engineering Building is occupied by the physics and the engineering departments with their various class rooms, laboratories and shops.

The Plant Breeding Building, together with the large Greenhouse, furnishes room for the work that is being conducted by the departments of botany, horticulture and entomology.

The new stock judging pavilion is now ready for use. This building cost \$20,000.00. It has a fine amphitheater into which stock used for judging may be brought, thus affording an unobstructed view for every student.

The Chemistry-Pharmacy Building, a two-story structure, is occupied by the class rooms and laboratories of those departments.

The Creamery is a two-story building which was almost doubled in size in 1911 by an addition which was made to meet the growing demands upon this department.

The old Gymnasium, a two-story building is used for the work in Farm Mechanics. This includes instruction in autos, tractors and farm machinery.

The new Armory and Gymnasium has just been completed at a cost of \$80,000.00. It provides offices, bath rooms, lockers, dressing rooms, target practice room, etc., for the departments of military and physical education. The main floor is 100 feet by 165 feet, free from supports, providing ample room for military drill and for athletics. A tract of land near the Armory has been fitted up for outdoor exercises and sports.

Wenona Hall, a splendid brick dormitory for young ladies, stands on a site just across the street from the campus. It will accommodate about sixty women.

Wecota Hall, the new dormitory for young women, has recently been completed. This building cost \$75,000, and provides rooms for about one hundred twenty women.

The central heating and electric light plant occupies a brick structure in the rear of the campus. The buildings are all heated by steam and lighted by electricity generated in this plant.

Near the campus on the adjoining college farm are locat-

ed the agricultural and the dairy barns, together with a number of smaller buildings which are devoted to agricultural purposes.

The Farm and Horticultural Gardens.—The college farm includes four hundred and sixty acres, about sixty acres of which are used by the Agricultural Experiment Station as an experimental farm. Here the field experiments with field crops, seed germination and soil preparation are conducted, and the students may witness and actually participate in this scientific work. The remainder of the farm is used as a model stock and dairy farm under the direction of the professor of animal husbandry. Practical work in experiments involving the best farming practices for this region are given the students.

The 1919 session of the legislature appropriated \$56,081.90 for additional land to be used for farm and experimental purposes by the Departments of Animal Husbandry and Dairying. This appropriation secures an additional two hundred forty acres adjoining the present college grounds on the east.

The Horticultural Gardens comprise about fifty acres adjoining the campus. Here and in the Greenhouse a large amount of work in fruit propagation and plant experimentation is being carried on.

The Laboratories, Shops and Museums.—Well fitted laboratories and shops have been provided in all those departments where their use is made necessary by modern educational methods. The value of illustrative materials has been recognized, and numerous departments have made large collections and museums. The equipment of the various departments is described in connection with the description of their work.

The Library and Reading Room.—The library, occupying rooms on the first floor of the Central Building, contains over 24,000 bound volumes and about 8,000 pamphlets. The institution is a repository for the government and contains sets of government publications dating from 1886. Many of the more valuable sets have been extended to an earlier date. Care has been exercised in the selection of books in order that each department may have proper reference books at the dis-

posals of the students. The books are arranged according to the Dewey system of classification and are completely catalogued in the card catalogue. The library also receives the cards from the government cataloguing the bulletins of the experiment stations and the publications of the United States Department of Agriculture. The files of many standard scientific and literary periodicals are kept bound. The reading room is abundantly supplied with current periodicals and newspapers. The library is open nearly all the time, day and evening, and at the disposal of students for the purpose of study and reading. Someone is in charge at all times to give help and information to those using the library.

The Postal Facilities.—The College furnishes first-class postal facilities. Station A, Brookings, S. D., is a Federal Postoffice, located in the Administration Building at the College. Mail is delivered at convenient times during the day, making it unnecessary for students to go to the city post-office.

ORGANIZATION AND GOVERNMENT

The Board of Regents.—By an act of the legislature approved March 10, 1897, provision was made for the appointment of the Regents of Education, who have charge of all of the educational institutions which are maintained either wholly or in part by the state. The terms of office of the regents are each six years and expire at different times, so that the board is a continuous body. Appointments to the board are made by the Governor, with the approval of the senate, "of persons of probity and wisdom from among the best and best known citizens, residents of different portions of the state, none of whom shall reside in the counties in which any of the state educational institutions are located, who shall be designated as the Regents of Education."

Among the powers and duties of the regents as defined by law some important ones are, to employ members of the different faculties and other agents, to determine the proper number of teachers in said faculties, also their compensation and terms of employment, to establish departments, to settle

upon courses of study, to determine the rules to be enacted for the government of students, to decide upon text books to be used, to fix tuition fees, to guard against unwise duplication of departments, to confer degrees, to control the Agricultural Experiment Station, and to promote education among the farmers by providing for institutes; in fact, to make all regulations as to the executive and instructional functions of the educational institutions of the state. The regents govern the College largely through a regents' committee.

The Faculty.—The faculty, consisting of the president and professors, all of whom are elected by the regents, determines in large part the general policy of the College. The professors are heads of the different departments of instruction which they represent and are responsible to the president, who is in charge of all matters of administration. The president, in turn, is responsible to the regents for the whole work of the institution. The president appoints, at the beginning of each college year, certain faculty committees which take up such work as may be assigned them by the president and faculty.

In the government of the College the faculty relies chiefly upon the sense of duty of the students. The student is expected to pursue his studies with diligence, to attend classes regularly and maintain good behavior at all times. Students are not only under the direct supervision of the faculty while on the campus, but are responsible for their conduct wherever they may be.

In order that the work of the College may be rendered as efficient as possible and all relations made harmonious, a set of regulations, chiefly governing matters of classification, has been adopted by the faculty. No set rules are expected to cover every condition that arises, and all students should recognize the importance of co-operation with the faculty in their efforts to make college life helpful to the student body as a whole.

STUDENT ACTIVITIES

Faculty Control.—While the students are allowed wide

latitude in carrying on affairs which vitally concern themselves, such as athletic, literary, musical, social and other activities, the faculty retains an advisory interest in all such matters, and has the right at any time to pass reasonable regulations for the welfare of the College

The Student Association.—The athletic, debating and oratorical interests, and the student publication, the *Industrial Collegian*, are under the control of the Student Association, which governs these activities by means of a board of control, consisting of students and members of the faculty. This board is organized into the Athletic, the *Collegian*, and the Debating Councils, each of which directs the respective interests that come under it. A small fee is charged for membership, which admits the holder to all student exercises under the supervision of the association and pays for a subscription to the *Collegian*.

The Women's League.—This is the self-government organization for women. Each woman by virtue of her registration is a member of the league and is expected to co-operate in carrying out the policies of the league.

Athletics.—Under the auspices of the local organization and a number of college athletic associations of the state, all kinds of athletic sports are practiced and encouraged. Students should understand, however, that their studies must receive the first consideration; and that the purpose of athletic exercises is to develop gentlemanly and ladylike qualities in those who participate in them.

Oratory and Debating.—Each year for a number of years representatives of the college have met students from other institutions in debating contests. The members of the local teams are chosen in a series of preliminary contests in which all are encouraged to take part. There has thus been aroused among the student body a large interest in this kind of work and a healthy rivalry to obtain places on the intercollegiate teams.

Credit for four hours work during one term is given those who take part in an intercollegiate debate.

A representative of the college is sent each year to the intercollegiate oratorical contest of the state. This student is selected by means of a local preliminary contest. In order that this contestant may fully represent the college, the faculty has imposed the requirement that those competing for this honor must be pursuing regular work for the Bachelor's degree.

The Student Publications.—The Industrial Collegian is a weekly paper published by the students of the College. It is intended to be a mirror of student life at this institution, and all phases of college activity have representatives on its staff of editors.

The Jack Rabbit is published annually by the junior class, and is a good representative and exponent of college life.

Members of the staffs of the Industrial Collegian and the Jack Rabbit may receive credit for work on these publications if this is done in cooperation with the department of Agricultural Journalism. (See courses of this department).

The Literary Societies.—The literary society is an important factor in the education of the students and all are strongly advised to take part in this kind of work. All preparatory students are expected to become members of the Franklin Society whose work is carried on under the supervision of the preparatory department, and is a preparation for the college societies.

The faculty and various citizens, recognizing the value of literary society work, have contributed several trophies to be competed for by the Athenian, Miltonian and Delphian Societies, which are composed of students of collegiate standing.

The Christian Associations.—In the state schools the Young Men's and Young Women's Christian Associations occupy unique positions. They are the only organizations whose primary object is the moral development of the student body. Their platforms are broad enough to allow every student who stands for pure manhood and womanhood to affiliate himself or herself with them. The purpose of the associations is to present the value of Christian living to the student and to the

state, and to create an atmosphere of good-fellowship among the members of the student body. Each association is represented by a local secretary and also by state and international college secretaries.

Other Student Organizations.—Among these may be mentioned the Art Club which encourages interest in art by bringing exhibits to the College and in various other ways; the chorus, orchestra, and bands, which give a series of musical entertainments during the year; the Agricultural Club, the Engineering Club, the Pharmacy Club, the Home Economics Club and other organizations which promote interest along the various lines of college work.

STUDENT EXPENSES

Tuition and Other Fees.—The tuition for regular work extending throughout the college year is four dollars per term or twelve dollars per year. For information concerning tuition fees for work that is not arranged in three months terms, see the respective courses. A student who enrolls must pay the full tuition for the term. A laboratory fee is charged for the use of each laboratory in which the student takes work, the amount of which will be found in the description of the course in the appropriate department. Books and other supplies are furnished by the student.

As an inducement to students to register promptly, the Regents have imposed the rule that a tardy enrollment fee of twenty-five cents per day shall be collected of all students who enroll subsequent to the regular day announced for that purpose. However, in no case shall the tardy enrollment fee exceed one dollar and fifty cents.

Special fees are charged for instruction in music in the College. (See the department of music).

By action of the regents the tuition and incidental fees and laboratory fees, after having been paid, will in no case be refunded; but music, dormitory and other fees may be refunded at the discretion of the president of the College, if the stu-

dent is called away before the end of the term by unavoidable causes. Honorably discharged soldiers and sailors, by action of the State Legislature of South Dakota, are exempt from tuition in the various state institutions.

Estimate of Expenses.—On account of the rapidly changing conditions due to the war, it is not possible to make a very accurate estimate of the necessary yearly expenses of a student. At the present time, these are approximately as follows:

Board and Room.....	\$250.00
Tuition	12.00
Fees in Student Association.....	6.00
Laboratory Fees	10.00
Books and Supplies	30.00
Laundry Expenses	20.00
Incidentals	25.00
	<hr/>
	\$353.00

While the above is considered as a reasonable estimate, many students go through the year on a less amount. Much depends upon the character of the student and the work he is taking.

Board and Rooms.—Good rooms and board can be obtained at private houses. The dormitories provide a large number of the young ladies with comfortable homes at reasonable rates. (See the following page for dormitory regulations). Every effort is made by the officers of the institution to secure suitable and satisfactory boarding places for students. A list of approved available places for boarding or rooming can be obtained at any time from the President of the College. The Christian Associations make it a point at all times to assist new students in finding proper living accommodations. If prospective men students will write to the secretary of the Young Men's Christian Association or women students to the adviser of women, these persons will be glad to arrange to meet them at the train and help them to secure boarding and rooming places.

All students, except those living at home, are required to reside in the college halls, or in approved homes under private management unless permission to live elsewhere is granted **in advance** by the Adviser of Men or the Adviser of Women. Wherever students reside they are expected to conform to the general regulations made by the student government associations, governing absences from the home, visitors' hours, social engagements, study hours, etc.

Under no circumstances will men students be permitted to room in residences where women students, girls employed in or about the city, or any girls or women not members of the housekeepers' immediate family are rooming. This rule applies conversely to women students.

The Women's Dormitories.—The two dormitories, Wenona Hall and Wecota Hall, will accommodate about one hundred seventy-five young women. Everything possible is done to make a real home for those who live there. The young women are given a large share in the government of the halls, and are thus encouraged to form orderly habits and high ideals of conduct.

Precautions have been taken to reduce danger from fire to a minimum. The buildings are heated with steam, lighted by electricity. Bath rooms, toilet rooms and lavatories are on each floor. In addition, each room is provided with a large closet, and a stationary wash stand with hot and cold water.

Each room is provided with two single cots or beds, mattresses, two straight chairs, study table, dresser with mirror, rug and window shades. Bedding, including pillows, towels and other articles must be provided by the students. Each girl should provide herself with mattress pad, two pairs of pillow cases, three sheets, two pairs of blankets, napkin ring, six towels and a clothes bag.

The cost of rooms in the halls is \$11.00 per term for each occupant, two in a room. This fee includes both light and heat. The room rent is payable in advance. The occupants will be expected to take care of their own room.

A student desiring room reserved for her must forward

\$5.00 with her application. This will apply on the regular room rent for the term. In no case will this advance payment be refunded after September first.

In connection with the dormitories, a large dining hall which will accommodate about four hundred people, is conducted not only for the young women who room here, but also for the benefit of other students, both young women and young men, who room elsewhere. The cost of table board will thus be reduced to a minimum. During the past year this has been \$4.50 a week. Owing to the unsettled conditions at the present time it is impossible to state what the cost of board will be during the next year. However, the dining hall will be conducted so as to provide wholesome fare at minimum cost.

Payment for board in the dining hall must be made for four weeks in advance, and no deduction will be made for less than one week's absence.

Student Labor.—There is a limited amount of paid labor about the institution which can be done by students and it is the policy of the College authorities to give as much work to deserving students as is consistent with the best interests of all. However, no one should expect to earn his entire expenses while at college.

Scholarships.—The following articles from the law, defining the powers and duties of the regents of education, is self-explanatory: "The Regents of Education shall fix all rates of tuition and other fees to be paid by students, but such rates must be the same in all different institutions. They may receive free of tuition two students appointed by each senator and one by each representative of the state legislature in any one of the institutions under their control, provided that the period for which appointment is made shall expire with the term of office of said senator or representative and provided that such appointees shall comply with all the rules and requirements of the institution which they desire to enter. No student, however, shall receive any other gratuity whatever." The regents of education make this article operative in the case of this institution. The student must present his ap-

pointment to the secretary of the College at the time of enrollment in order to obtain credit for the same.

ENTRANCE REQUIREMENTS

Admission.—While students are admitted at any time and assigned to such classes as they are found best fitted to enter, it is much better to commence work at the beginning of the college year. No reduction in college fees is made when the student enters after the beginning of the term, and if a student enters late he will not under any condition be allowed to hold a class back. See paragraph concerning tuition for statement concerning tardy enrollment fee. If a tardy beginning is imperative the student must arrange with a tutor for assistance in bringing up his work, in order that he may go on understandingly and without hindrance to the class.

Candidates for admission to any department of the College must be at least fourteen years of age and of good moral character.

Credit in the College may be obtained by presenting certified grades from other institutions of reputable standing or through examination. The College reserves the right, however, to cancel grades accepted from other schools should the student be found deficient in the subject for which he has received credit.

The College will furnish prospective students with application blanks, which, after being filled out with certified standings and other data, should be returned to the registrar.

The first two days of the first term are devoted to the registration of students. All students should complete their registration at this time and new students must present their credits at or before this time if they expect to be assigned a proper classification.

Entrance Credits.—For admission to the four-years courses leading to the degree of Bachelor of Science, and the courses in Pharmacy leading to the degrees of Pharmacy Graduate and Pharmaceutical Chemist, the student should present credit for fifteen units of high school or other sec-

ondary school work. A unit is a subject which is taught five periods a week throughout the school year, or the equivalent of this work. Of the fifteen units required, some are prescribed, the remaining units being in optional subjects as indicated in the table below. A student who has graduated from a creditable high school course of four years will in general be enrolled as a member of the freshman class, but in case the prescribed subjects have not been completed, he may be required to bring up this back work.

A preparatory course is maintained for the benefit of students who are unable to attend a high school to complete the entrance requirements. Students will not be admitted to this department unless they present evidence that they have completed the work of the public schools as far as the ninth grade. For the preparatory course, see the Preparatory Department.

The list of prescribed and optional subjects is as follows:

Prescribed Units

English, three units in advance of grammar. These should consist of composition work and a study of some of the simpler American and English classics.

Algebra, one and one-half units for engineering students, one unit for others. The fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and the analysis and solutions of problems involving these principles.

Plane Geometry, one unit. The completion of plane geometry. Special emphasis should be paid to the solutions of original problems and constructions. Students of engineering who have not completed solid geometry in the high school will be required to take the subject in the freshman year of the college course.

Elementary Physics, one unit. One year's work covering the science as presented in the best text books. Laboratory work should accompany the text book work.

History, one and one-half units. This work should follow, and not include, elementary United States History, and should

be a connected study of some of the following lines: ancient, medieval, modern, English, American history.

Civics, one-half unit. A study of the constitutions of the United States and of the state, as presented in the best high schools.

Foreign Language, two units. These credits should be for two full years' work in either German, French, Spanish or Latin. In case a student is a graduate of a four-years high school course which does not include any foreign language, he may present other entrance credits in place of these two units, but should take foreign language in the freshman and sophomore years of his college course.

Optional Units

The three and one-half optional units may be offered in the same lines of work as the prescribed units and in other departments, as indicated by the table below. About the only requirement made concerning the work for which credit is offered is that it should be of a reasonably high standard. The maximum credit that is allowed in each subject is indicated in the table. While no minimum is stated it is expected that the student shall have covered a reasonable amount of a subject before being given any credit in it.

TABLE OF ENTRANCE REQUIREMENTS

	Prescribed Units	Maximum Allowed
English	3	4
*Algebra, thru quadratics	1	2
Plane Geometry	1	1
Elementary Physics	1	1
History, following elementary U. S. History.....	1½	3
*Foreign Language, German, French, Spanish or Latin	2	4
Civics	½	½
Science—		
Agriculture		1

Physiology, following Biology, Zoology or Botany	1½
Botany	1
General Biology	1
Zoology	1
Geology	1½
Physical Geography	1½
Bookkeeping	1½
Commercial Geography	1½
Freehand Drawing	1½
Manual Training, including Mechanical Drawing	1
Cooking	1½
Sewing	1½
*Solid Geometry	1½

*See above for exceptions as to algebra, solid geometry and foreign language.

STUDIES

Credits.—Credit for college work is counted in credit hours. A credit hour is one hour of class or lecture work requiring an additional two hours in preparation. Three hours in laboratory work is counted equivalent to one hour spent in the class room.

Registration.—In registering for work the student is advised by a member of the faculty who helps him to make out a consistent schedule of studies. In general, students are not allowed to classify in more than eighteen or less than fourteen credit hours a week. The faculty recognizes that, because of differences in subjects and in the ability of students, some are able to carry a larger number of hours than others, and endeavors to assign to each student enough work to keep him reasonably busy without overloading him.

Special Students.—Students of mature years who have passed in the work of the preparatory department may be allowed to pursue special work if not candidates for a degree, but they must satisfy the faculty that they are qualified to take up the studies desired.

Military Requirements.—The national law organizing and endowing the state agricultural colleges requires that military science shall form a part of the instruction offered. All male students below the junior year are required to take military drill three times a week unless excused because of physical disability or for some other reason. Certificates of disability should be obtained from the physician whom the College authorities have designated for such work, the College bearing the expense of the examination.

The Reserve Officers Training Corps was discontinued during the time that the college had the Students Army Training Corps, but has been re-established and juniors and seniors may elect military science during the remainder of their course, and thus receive commutation of clothing and board from the National Government. For further regulations governing the work see the military department.

Grades.—All grades of students are reported to the registrar by means of the letters, M, S, E, I, P, and F. The letter M means that the student's work is of medium or average grade. The letter S, meaning superior, indicates that the work is above the average, but is not as high as E, which means that the student's work is excellent or so high above the average as to merit special mention. The letter I means inferior or below the average, but is higher than P, meaning passed, which indicates that the student has only a sufficient knowledge to make it unprofitable for him to repeat the subject. The letter F means that the student has failed to receive a passing grade. In the case of a failure in a subject which is continued during the term following the student may, at the discretion of the instructor, be allowed to continue the subject. In such a case the grade should be marked Fc (continued), which will be changed to P in case the student attains a grade of M in the following term's work in the subject.

Conditioned Students.—Any student who without good reason has failed to receive a passing grade in a reasonable amount of his work will be registered only conditionally for further work. And if any student at any time is not carrying

the work in which he is classified at a passing grade, or fails to perform other duties which may be expected of him, he may be placed upon the conditioned list and thus debarred from certain student privileges, or he may be dropped from the college.

Absences.—Students are expected to attend regularly all the exercises of the classes to which they are assigned. When a student finds it necessary to be absent he should get an excuse in advance, if possible. The faculty formulates such rules and regulations governing student absences as it may deem advisable. Should a student find it necessary to be late to his class he should make an explanation to his instructor at the close of the period, who may excuse the tardiness if the reason for the tardiness is deemed satisfactory.

Extra credits will be required of students for absences from college duties, whether the absences are excused or not, unless the students are absent officially representing the College. While the faculty will do all that is reasonably possible to assist students to bring up work which has been missed because of sickness or for other good reasons, they recognize the principle that even a good excuse should not stand in lieu of scholarship.

DEGREES AND CERTIFICATES

Degrees.—The courses of study leading to degrees given by the College are as follows:

The two-years course in Pharmacy, leading to the degree of Pharmacy Graduate. For additional work of two years leading to the degree of Bachelor of Science, see schedule of Pharmacy Course.

The three-years course in Pharmacy, leading to the degree of Pharmaceutical Chemist. This course was offered for the first time during the year 1918-1919. Upon the completion of an additional year's work outlined under faculty direction, the student may receive the degree of Bachelor of Science.

The four-years course in Agriculture, in which the student may specialize along the lines of animal husbandry, dairy

husbandry, agronomy, horticulture, plant pathology or teacher training. The teacher training course in Agriculture was offered for the first time during the year 1918-1919. For further details concerning this work, see description of the department of Education. Upon the completion of one of these schemes, under the direction of the head of the department in which the group of electives is chosen, the student will receive the degree of Bachelor of Science.

The general course and the teachers' training course in Home Economics, each of four years, leading to the degree of Bachelor of Science. The teachers' training course in Home Economics was offered for the first time during the year 1918-1919. For details concerning this course, see the description of the department of Education.

The four-years courses in Mechanical, Electrical and Civil Engineering, leading to the degree of Bachelor of Science. In order to meet the constantly increasing demand for better equipped and more thoroughly trained men along the several lines of engineering activities, an additional fifth year's course of study is offered in each of the three engineering departments. Upon the completion of this additional year's work, the advanced degree, Mechanical Engineer, Electrical Engineer or Civil Engineer, will be conferred. This work, which is nearly all prescribed, is a continuation of the work pursued in the undergraduate courses, and is intended more fully to equip the student with special training along the particular line of work which he desires to pursue after leaving college.

The four-years course in General Science, leading to the degree of Bachelor of Science. The work of this course is largely elective and is planned to give the student a liberal education, at the same time permitting specialization in the sciences.

The degree of Master of Science is offered to students who have received the Bachelor's degree either from this institution or from other institutions of equal rank, and who in addition have completed at least one full year's resident work, i. e., forty-eight credit hours, in advanced study and have shown a reasonable proficiency in such work. At least two-thirds of this work must be in some one line of study,

called the major work. The scheme of study presented by the student for the degree must be prescribed by the faculty committee on advanced degrees, who will outline the work in consultation with the head of the department in which the major work is taken.

It should be understood that the work for this degree can not be subjected to rigid regulation, and that each case must be dealt with on its individual merits.

Owing to the great demand for county agricultural agents and extension workers the College will give instruction along these lines to a limited number of graduates in Agriculture. Such persons should show some special fitness for the work they wish to take up. The instruction will consist of lectures on extension history, methods of conducting extension work, legislation, and other topics; the assisting of county agents and the carrying out of projects. The work will be varied according to the line that the student wishes to pursue. This work will be carried on in connection with the agricultural departments of the College and may be applied towards completing the requirements for the degree of Master of Science.

Special Courses.—The College also offers special courses in several important and practical lines of work. These are mentioned in other parts of the catalog under the proper headings, and are as follows:

The four-years course in the secondary school of agriculture.

The four-years preparatory course.

The one year secretarial course.

The one-year course in farm mechanics.

The three-months creamery course.

The six-weeks summer session.

Courses in vocal and instrumental music.

Special work in art.

Schemes of Study.—The courses leading to the degree of Bachelor of Science and the degrees in Pharmacy are out-

lined on the following pages. The conditions for entrance to these courses may be found under "Entrance Requirements." A department will not be required to give an elective unless at least five students are enrolled in the subject.

AGRICULTURAL COURSES

The freshman and sophomore years are the same for all the agricultural courses. In the junior and senior years the student may specialize by electing one of the indicated groups.

Freshman Year

	First Term	Second Term	Third Term
Inorganic Chemistry, Chemistry 1, 2, 3.....	3	3	3
Rhetoric, English 13, 14, 15.....	3	3	3
Agricultural Botany, Botany 1, 2.....	3	3	
Stock Judging, Animal Husbandry 1.....	3		
Grain and Root Crops, Agronomy 1, 2.....		3	4
General Horticulture, Horticulture 1.....	4		
Elementary Poultry, Poultry Husbandry 1..			3
Breeds of Live Stock, Animal Husbandry 2..		4	
Farm Mechanics, Farm Mechanics 1.....			3
Hygiene	1		
Military Art, Military 1, 2, 3.....	1	1	1
	—	—	—
	18	17	17

Sophomore Year

	First Term	Second Term	Third Term
Farm Dairying, Dairy Husbandry 1.....	4		
Quantitative Chemistry, Chemistry 5.....		3	
Bacteriology, Zoology 10			4
Organic Chemistry, Chemistry 4.....	5		
General Zoology, Zoology 3, 4.....	4	4	
Live Stock Management, Animal Husbandry 7			4
Industrial History, History 20, 21.....		3	3
Veterinary Pathology, Veterinary 6.....		3	
Floriculture and Market Gardening, Horti- culture 2			2
Mathematics, Language or Physics.....	3	3	3
Military Art, Military 4, 5, 6.....	1	1	1
	—	—	—
	17	17	17

ANIMAL HUSBANDRY GROUP**Junior Year**

	First Term	Second Term	Third Term
Soils, Agronomy 10, 11, 12.....	4	4	4
Agricultural Entomology, Entomology 1, 2..	3	3	
Heredity, Botany 11			4
Psychology, Education 1	4		
Survey of American Literature, English 31, 32, 33	3	3	3
Livestock History and Pedigrees, Animal Husbandry 8		3	
Animal Nutrition, Animal Husbandry 5.....			3
Elective	2	3	2
	<hr/> 16	<hr/> 16	<hr/> 16

Senior Year

	First Term	Second Term	Third Term
Economics, History 13	4		
Agricultural Economics, History 16.....		4	
Advanced Stock Judging, Animal Husbandry 3	3		
Principles of Animal Breeding, Animal Hus- bandry 4	3		
Live Stock Production, Animal Husbandry 9			4
Veterinary Hygiene, Veterinary 2.....	3		
Veterinary Medicine, Veterinary 3.....		4	
Common Diseases, Veterinary 4.....			3
Stock Feeding, Animal Husbandry 6.....	3		
Elective		8	9
	<hr/> 16	<hr/> 16	<hr/> 16

AGRONOMY GROUP**Junior Year**

	First Term	Second Term	Third Term
Soils, Agronomy 10, 11, 12.....	4	4	4
Agricultural Entomology, Entomology 1, 2..	3	3	
Heredity, Botany 11.....			4
Psychology, Education 1	4		
Crop Breeding, Agronomy 3, 4.....		3	3
Survey of American Literature, English 31, 32, 33	3	3	3

Elective	2	3	2
	<hr/>	<hr/>	<hr/>
	16	16	16

Senior Year

	First Term	Second Term	Third Term
Economics, History 13	4		
Agricultural Economics, History 16		4	
Geology, Agronomy 16	5		
Meteorology, Agronomy 17		4	
Elective	7	8	16
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	16	16	16

DAIRY HUSBANDRY GROUP**Junior Year**

	First Term	Second Term	Third Term
Soils, Agronomy 10, 11, 12	4	4	4
Agricultural Entomology, Entomology 1, 2 ..	3	3	
Heredity, Botany 11			4
Survey of American Literature, English 31, 32, 33	3	3	3
Dairy Bacteriology, Dairy Husbandry 3	5		
Dairy Inspection, Dairy Husbandry 2		5	
Dairy Management, Dairy Husbandry 6			5
Elective	2	2	
	<hr/>	<hr/>	<hr/>
	17	17	16

Senior Year

	First Term	Second Term	Third Term
Economics, History 13	4		
Agricultural Economics, History 16		4	
Butter Making, Dairy Husbandry 4			5
Cheese Making, Dairy Husbandry 5	5		
Dairy Extension, Dairy Husbandry 13		4	
Dairy Technology, Dairy Husbandry 7			5
Psychology, Education 1	4		
Dairy Seminar, Dairy Husbandry 14			1
Elective	3	8	5
	<hr/>	<hr/>	<hr/>
	16	16	16

HORTICULTURAL GROUP**Junior Year**

	First Term	Second Term	Third Term
Soils, Agronomy 10, 11, 12	4	4	4
Agricultural Entomology, Entomology 3, 4..	3	3	
Heredity, Botany 11			4
Survey of American Literature, English 31, 32, 33	3	3	3
Psychology, Education 1	4		
Forestry, Horticulture 3.....	2		
Plant Diseases, Botany 6, 7.....		3	3
Landscape Gardening, Horticulture 5		2	
Plant Materials, Horticulture 6.....			2
Elective		2	
	—	—	—
	16	17	16

Senior Year

	First Term	Second Term	Third Term
Economics, History 13	4		
Agricultural Economics, History 16		4	
Systematic Pomology, Horticulture 4.....	2		
Economic Entomology, Entomology 3, 4.....	3	3	
*Nursery Management, Horticulture 7, 8, 9..	2	2	2
Experimental Horticulture, Horticulture 10..			2
Taxonomy, Botany 8			4
Electives	5	7	8
	—	—	—
	16	16	16

*Required of those expecting to follow Horticultural work.

TEACHERS' TRAINING COURSE IN AGRICULTURE**Junior Year**

	First Term	Second Term	Third Term
Soils, Agronomy 10, 11, 12.....	4	4	4
Agr. Entomology, Entomology 1, 2	3	3	
Heredity, Botany 11			4
Survey of American Literature, English 31, 32, 33	3	3	3
*Forging, Mechanical Engineering 2	3		
*Carpentry, Mechanical Engineering 1.....		3	
*Elective			2
Educational Psychology, Education 1.....	4		

Vocational Agriculture Education, Education 3	3	
Principles of Teaching, Education 2.....		4
	17	16
		17

Senior Year

	First Term	Second Term	Third Term
Economics, History 13	4		
Agricultural Economics, History 16		4	
Rural Sociology, History 15			4
Geology, Agronomy 16	5		
Animal Nutrition, Animal Husbandry 5.....			3
Principles of Animal Breeding, Animal Husbandry 4	3		
Special Methods in Teaching Vocational Agriculture, Education 6	5		
**Practice Teaching in Agriculture, Education 10			5
†Elective in Education		3	
Electives		9	4
	17	16	16

*Starred courses any term.

**Practice teaching and electives in education any term.

†Senior electives in teacher training course should be chosen from the following and along two or more lines:

Advanced Stock Judging.....	3	Veterinary Medicine	4
Common Diseases	3	Educational Measurement	4
Project Work	5	Vocational Educational History..	4
Crop Breeding	3-6	Rural Education	4
Field Management	3	Educational Sociology.....	4
Stock Feeding	3	Vocational Secondary Education..	4
Livestock Production	4		

HOME ECONOMICS COURSES

In the Freshman and Sophomore years of Home Economics, all students take the same courses. In the Junior and Senior years, a general course may be taken, or a course majoring in one of the following: Teaching of Home Economics; Cookery and Institutional Work; Sewing and Millinery.

Freshman Year

	First Term	Second Term	Third Term
Rhetoric, English 1, 2, 3	3	3	3
*French 1, 2, 3 or Spanish 1, 2, 3.....	3	3	3
Inorganic Chemistry, Chemistry 1, 2, 3.....	3	3	3

Household Physics, Physics 10	4		
Food Preparation and Marketing, Home Economics 1, 2		4	4
Drawing, Art 4, 5, 6	2	2	2
Hygiene, Home Economics 24	1		
Social Usage, Home Economics 25.....		1	
Survey in Home Economics, Home Economics 26			1
Physical Culture 1, 2, 3	1	1	1
	<hr/>	<hr/>	<hr/>
	17	17	17

Sophomore Year

	First Term	Second Term	Third Term
French 4, 5, 6 or Spanish 4, 5, 6.....	3	3	3
Organic Chemistry, Chemistry 4	5		
Household Chemistry, Chemistry 7		3	
Chemistry of Nutrition, Chemistry 8			4
Food Preparation II, Home Economics 3, 4	4	4	
Sewing, Home Economics 10, 11	4	4	
Textiles and Laundry, Home Economics 13..			4
Home Nursing, Home Economics 9.....		2	
Bacteriology, Zoology 10			4
Physical Culture 4, 5, 6.....	1	1	1
	<hr/>	<hr/>	<hr/>
	17	17	16

*Students who have had two years of a modern language in high school will be required to take but one year in college. Students who have had three or more years of a modern language in high school will not be required to take further courses. Students excused from part or all of the language work will be required to take other courses, approved by the classifying officer, in its stead.

MAJOR IN COOKERY AND INSTITUTIONAL MANAGEMENT

Junior Year

	First Term	Second Term	Third Term
Survey of American Literature, English 31, 32, 33	3	3	3
Zoology and Physiology, Zoology 3, 4.....	4	4	
Psychology, Education 1	4		
History of Education, Education 4 or Elec- tive General		4	
Principles of Teaching, Education 2 or Elec- tive General			4
Elem. Dressmaking, Home Economics 12....	3		
Drafting and Dressmaking, Home Econom-			

ics 14			3
Dietetics, Home Economics 5, 6		3	3
Applied Design, Art 8	3		
House Decoration, Art 10			3
Elective		3	
	—	—	—
	17	17	16

Senior Year

	First Term	Second Term	Third Term
Modern History, History 8, 9		3	3
Economics, History 13	4		
Sociology, History 14		4	
Elective in Education or General Elective...			4
Household Management, Home Economics 17, 18	3	3	
Practice Cottage, Home Economics 19 3-one term			
Practice Teaching, Home Economics 23 or Education 9 3-one term or			
Advanced Course in Cookery, Home Econ- omics 7, 8	3	3	3
Special Methods, Home Economics 21, 22 or Education 7, 8	3	3	
Institutional Management, Home Econom- ics 20			5
Electives	3		
	—	—	—
	16	16	15

MAJOR IN SEWING AND MILLINERY

Junior Year

	First Term	Second Term	Third Term
Survey of American Literature, English 31, 32, 33	3	3	3
Zoology and Physiology, Zoology 3, 4.....	4	4	
Elem. Dressmaking, Home Economics 12....	3		
Drafting and Dressmaking, Home Econom- ics 14			3
Dietetics, Home Economics 5, 6.....		3	3
Costume Design, Art 9		3	
House Decoration, Art 10.....			3
Applied Design, Art 8	3		
Psychology, Education 1	4		

History of Education, Education 4.....		4	
Principles of Teaching, Education 2			4
	—	—	—
	17	17	16

Senior Year

	First Term	Second Term	Third Term
Economics, History 13	4		
Sociology, History 14		4	
Elective in Education or General Elective...			4
Household Management, Home Economics 17, 18	3	3	
Special Methods, Home Economics 21, 22 or Education 7, 8	3	3	
Practice Cottage, Home Economics 19 3-one term	3		
Practice Teaching, Home Economics 23 or Education 9 3-one term			3
Millinery, Home Economics 16		4	
Modeling and Advanced Dressmaking, Home Economics 15			4
Modern History, History 8, 9		3	3
Elective	3		3
	—	—	—
	16	17	17

TEACHERS' TRAINING COURSE IN HOME ECONOMICS

Junior Year

	First Term	Second Term	Third Term
Survey of American Literature, English 31, 32, 33	3	3	3
Zoology and Physiology, Zoology 3, 4	4	4	
Elem. Dressmaking, Home Economics 12....	3		
Drafting and Dressmaking, Home Econom- ics 14			3
Applied Design, Art 8	3		
Dietetics, Home Economics 5, 6		3	3
Costume Design, Art 9		3	
House Decoration, Art 10			3
Psychology, Education 1	4		
Principles of Teaching, Education 2			4
History of Education, Education 4.....		4	
	—	—	—
	17	17	16

Senior Year

	First Term	Second Term	Third Term
Economics, History 13	4		
Sociology, History 14		4	
Elective in Education			4
Household Management, Home Economics 17, 18	3	3	
Practice Cottage, Home Economics, 19 3-one term			
Practice Teaching, Home Economics 23 or Education 9 3-one term			
Elective in Home Economics or Agriculture 3-one term	3	3	3
Special Methods, Home Economics 21, 22 or Education 7, 8	3	3	
Modern History, History 8, 9		3	3
Elective to make 16 credits each term.....	3		6
	<hr/> 16	<hr/> 16	<hr/> 16

GENERAL COURSE IN HOME ECONOMICS**Junior Year**

	First Term	Second Term	Third Term
Psychology, Education 1	4		
Survey of American Literature, English 31, 32, 33	3	3	3
Zoology and Physiology, Zoology 3, 4.....	4	4	
Elem. Dressmaking, Home Economics 12....	3		
Drafting and Dressmaking, Home Econom- ics 14			3
Dietetics, Home Economics 5, 6		3	3
Costume Design, Art 9.....		3	
Applied Design, Art 8	3		
House Decoration, Art 10			3
Elective		3	4
	<hr/> 17	<hr/> 16	<hr/> 16

Senior Year

	First Term	Second Term	Third Term
Modern History, History 8, 9		3	3
Economics, History 13	4		
Sociology, History 14		4	
Rural Sociology, History 15 or Elective.....			4

Practice Cottage, Home Economics 19 3-one
term

Elective in Home Economics, one term.....	3		3
Millinery, Home Economics 16	4	
Household Management, Home Economics 17, 18	3	3	
Elective	6	2	6
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	16	16	16

ENGINEERING COURSES

Freshman Year

	First Term	Second Term	Third Term
Rhetoric, English 13, 14, 15	3	3	3
Trigonometry, Mathematics 17		5	
College Algebra, Mathematics 16	5		
Inorganic Chemistry, Chemistry 1, 2, 3.....	3	3	3
Engineering Drawing, Mechanical Engineer- ing 6, 7	3	2	
Descriptive Geometry, Mechanical Engineer- ing 10			2
Forging, Mechanical Engineering 2	2		
Machine Shop, Mechanical Engineering 3, 4..		3	2
Plane Surveying, Civil Engineering 1.....			4
Applied Electricity, Electrical Engineering 1			2
Hygiene	1		
Military Art, Military 1, 2, 3	1	1	1
	<hr/>	<hr/>	<hr/>
	18	17	17

Sophomore Year

	First Term	Second Term	Third Term
Survey of American Literature, English 31, 32, 33	3	3	3
Analytic Geometry, Mathematics 18	5		
Calculus, Mathematics 19, 20		5	5
General Physics, Physics 4, 5, 6	4	4	4
Machine Design, Mechanical Engineering 11		3	
Elements of Mechanism, Mechanical Engi- neering 12			4
Machine Shop, Mechanical Engineering 5 (M. E. and E. E.)	3		
Topographical Surveying Civil Engineering 2, 3 (C. E.)	3	2	
Applied Electricity, Electrical Engineering 2			

and 3	1	1	
Military Art, Military 4, 5, 6.....	1	1	1
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	17	17-18	17

MECHANICAL ENGINEERING**Junior Year**

	First Term	Second Term	Third Term
Electricity and Magnetism, Electrical Engineering 4	5		
Hydraulics, Civil Engineering 4	4		
Analytic Mechanics, Mathematics 21.....	4		
Machine Design and Kinematics, Mechanical Engineering 17	3		
Steam Engine and Thermodynamics, Mechanical Engineering 13, 14.....		3	3
Mechanics of Materials, Civil Engineering 7, 8		5	3
D. C. Dynamos and Motors, Electrical Engineering 5		5	
Graphic Statics, Civil Engineering 6.....		3	
Alternating Currents, Electrical Engineering 6			5
Stresses, Civil Engineering 10			4
	—	—	—
	16	16	15

Senior Year

	Term First	Term Second	Term Third
Engineering Laboratory, Mechanical Engineering 18, 19	4	2	
Concrete and Masonry, Civil Engineering 15	3		
Economics, History 13	4		
Water Supply, Civil Engineering 17 or Highway Construction, Civil Engineering 14	3		
Reinforced Concrete, Civil Engineering 16..		3	
Steam Boilers, Mechanical Engineering 15..		3	
Engineering Design, Mechanical Engineering 21		5	
Contract and Specifications, Civil Engineering 21			2
Heating and Ventilation, Mechanical Engineering 20			3
Power Plant Design, Mechanical Engineering 22			4

Gas and Oil Engines, Mechanical Engineering 16			2
Elective	2	3	5
	<hr/>	<hr/>	<hr/>
	16	16	16

CIVIL ENGINEERING

Junior Year

	Term First	Term Second	Term Third
Hydraulics, Civil Engineering 4.....	4		
Water Supply, Civil Engineering 17 or			
Highway Construction, Civil Engineering 14	3		
Analytic Mechanics, Mathematics 21.....	4		
Electricity and Magnetism, Electrical Engineering 4	5		
Mechanics of Materials, Civil Engineering 7, 8		5	3
Steam Engines and Thermodynamics, Mechanical Engineering, 13, 14.....		3	3
Graphic Statics, Civil Engineering 6.....		3	
Topographical Drawing and Map Reading, Civil Engineering 3		2	
Railroad Surveying, Civil Engineering 9 or			
Sewerage, Civil Engineering 18		3	
Railroad Surveying, Civil Engineering 9 or			
Irrigation Engineering, Civil Engineering 5..			2
Stresses, Civil Engineering 10.....			4
Bacteriology, Zoology 10			4
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	16	16	16

Senior Year

	First Term	Second Term	Third Term
Structural Steel Design, Civil Engineering 11	3		
Water Supply, Civil Engineering 17 or			
Highway Construction, Civil Engineering 14	3		
Concrete and Masonry, Civil Engineering 15	3		
Economics, History 13	4		
Engineering Laboratory, Mechanical Engineering 18	4		
Bridge Design, Civil Engineering 12.....		3	
Reinforced Concrete, Civil Engineering 16...		3	
Railroad Surveying, Civil Engineering 9 or			
Sewerage, Civil Engineering, 18		3	
Steam Boilers, Mechanical Engineering 15..		3	

Higher Structures, Civil Engineering 20.....			2
Bridge Design, Civil Engineering 13.....			2
Railroad Surveying, Civil Engineering 9 or			
Irrigation Engineering, Civil Engineering 5..			2
Contracts and Specifications, Civil Engineer-			
ing 21			2
Elective		4	7
	17	16	15

ELECTRICAL ENGINEERING**Junior Year**

	First Term	Second Term	Third Term
Electricity and Magnetism, Electrical Engi- neering 4	5		
D. C. Dynamos and Motors, Electrical Engi- neering 5		5	
Alternating Currents, Electrical Engineer- ing 6			5
Hydraulics, Civil Engineering 4	4		
Graphic Statics, Civil Engineering 6		3	
Stresses, Civil Engineering 10			4
Mechanics of Materials, Civil Engineering 7, 8		5	3
Kinematics and Machine Design, Mechanical Engineering 17	3		
Steam Engines and Thermodynamics, Me- chanical Engineering 13, 14		3	3
Journal Class, Electrical Engineering 11....			1
Analytic Mechanics, Mathematics 21	4		
	16	16	16

Senior Year

	First Term	Second Term	Third Term
Advanced Alternating Currents, Electrical Engineering 7	5		
Electric Lighting, Electrical Engineering 8..		5	
Electric Transmission and Power, Electrical Engineering 9			5
Dynamo Design, Electrical Engineering 10..		3	
Concrete and Masonry, Civil Engineering 15	3		
Reinforced Concrete, Civil Engineering 16..		3	
Contracts and Specifications, Civil Engineer-			

ing 21			2
Steam Boilers, Mechanical Engineering 15...		3	
Gas and Oil Engines, Mechanical Engineering 16			2
Heating and Ventilation, Mechanical Engineering 20			3
Power Plant Design, Mechanical Engineering 22			4
Engineering Laboratory, Mechanical Engineering 18, 19	4	2	
Economics, History 13	4		
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	16	16	16

GENERAL SCIENCE COURSE

Freshman Year

	First Term	Second Term	Third Term
Rhetoric, English 13, 14, 15	3	3	3
*Language, French 1, 2, 3 or Spanish 1, 2, 3	3	3	3
Inorganic Chemistry 1, 2, 3	3	3	3
Freehand Drawing or Mechanical Drawing or			
Shop Work	2	2	2
Trigonometry, Mathematics 14		3	
Hygiene, Home Economics 24	1		
Military or			
Physical Culture	1	1	1
†Electives	5	2	5
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	18	17	17

Sophomore Year

	First Term	Second Term	Third Term
Modern History, History 7, 8, 9	3	3	3
Survey of American Literature, English 31, 32, 33	3	3	3
Language, French 4, 5, 6 or Spanish 4, 5, 6	3	3	3
Military Art or			
Physical Culture	1	1	1
**Electives	7	7	7
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	17	17	17

Junior Year

	First Term	Second Term	Third Term
Psychology, Education 1	4		
American Government History 10.....	4		
Political Parties, History 11		4	
Comparative Government, History 12			4
Astronomy, Mathematics 22			3
Electives	8	12	9
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	16	16	16

Senior Year

	First Term	Second Term	Third Term
Economics, History 13	4		
Geology, Agronomy 16	5		
Sociology, History 14		4	
Electives	7	12	16
	—	—	—
	16	16	16

*Students entering with two years of a modern language will be required to take an additional year. Those entering with three years of a modern language will not be required to take additional work in French or Spanish. Students excused from part or all of their language work must take other courses, approved by the classifying officer in its stead.

†The electives are to be chosen from the following subjects: Household Physics, College Algebra, Plane Surveying, Trigonometry, General Accounting, Money and Banking, Business Law, Business Organizations and Contracts, Shorthand, Food Preparation, Agricultural Botany, Farm Dairying, Poultry Culture, Forage Crops, General Horticulture, Grain and Root Crops, Breeds of Live Stock, Stock Judging and Applied Electricity.

**Two of the following sciences should be elected thruout the year: Zoology, Chemistry, Mathematics, Physics, Botany.

ELECTIVES OF JUNIOR AND SENIOR YEARS IN GENERAL**SCIENCE COURSE**

	First Term	Second Term	Third Term
Art History, Art 12, 13, 14	2	2	2
History of Music	3	any one term	
Harmony	3	any one term	
Elementary Organic Chemistry, Chemistry 4	5		
Advanced Organic Chemistry, Chemistry 9, 10, 11	4	4	4
Agricultural Analysis, Chemistry 12	3		
Inorganic Technology, Chemistry 15.....	3		
Physiological Chemistry, Chemistry 18.....	5		
Quantitative Chemistry, Chemistry 5, 6.....		3	3
Household Chemistry, Chemistry 7		3	

Water Analysis, Chemistry 13.....		3	
Elementary Physical Chemistry, Chemistry 16.....		5	
Technical Analysis, Chemistry 19		4	
Chemistry of Foods and Nutrition, Chemistry 8			4
Agricultural Chemistry, Chemistry 14.....			3
Organic Technology, Chemistry 17			3
Quantitative Inorganic Chemistry, Chemistry 20			4
Military Art, Military 7, 8, 9.....	5	5	5
Military Art, Military 10, 11, 12.....	5	5	5
Agricultural Entomology, Entomology 1, 2..	3	3	
Systematic Entomology, Entomology 5, 6....	2-5	2-5	2-5
Economic Entomology, Entomology 3, 4....	3	3	
Household Pests, Entomology 7			3
Veterinary and Sanitary Entomology, Entomology 8			3
Animal Behavior, Entomology 9.....			3
Bee Keeping, Entomology 10			3
General Zoology, Zoology 3, 4.....	4	4	
Vertebrate Histology, Zoology 7, 8	4	4	
Pharmacy Physiology, Zoology 5, 6.....	4	3	
Vertebrate Embryology, Zoology 9.....			3
Bacteriology, Zoology 10			4
Agricultural Botany, Botany 1, 2.....	3	3	
General Botany, Botany 3, 4		3	3
Taxonomy, Botany 8	5	5	
Weeds, Botany 9	3		
Plant Physiology, Botany 5		5	5
Plant Diseases, Botany 6, 7.....		3	3
Plant Histology, Botany 10		4	
Heredity, Botany 11			4
General Physics, 4, 5, 6.....	4	4	4
Advanced Physics, Physics 7	5		
Heat, Physics 8		5	
Light, Physics 9			5
Practical Physics, Physics 11, 12, 13.....	3	3	3
College Algebra, Mathematics 16	5		
Plane Trigonometry, Mathematics 17		5	
Plane Trigonometry, Mathematics 14		3	
Analytical Geometry, Mathematics 18	5		
Calculus, Mathematics 19, 20		5	5
General Astronomy, Mathematics 22			3
Calculus and Analytical Mechanics, Mathematics 21	3		
Solid Analytical Geometry, Mathematics 23..		3	

Differential Equations, Mathematics 24	4	4	4
Methods of Least Squares, Mathematics 15..	3	any one term	
News Writing, Journalism 1	2		
Agricultural Journalism, Journalism 2		2	
Agricultural Publicity Methods, Journalism 3			2
Special Methods Teaching Agriculture, Education 6	5		
Vocational Agricultural Education, Education 3		3	
Principles of Teaching, Education 2			4
History of Education, Education 4		4	
School Administration, Education 5		4	
Practice Teaching in Vocational Agriculture, Education 10	5	5	5
Vocational Secondary Education, Education 13	4		
Educational Sociology, Education 11			4
Rural Education, Education 12			4
Problems of Reconstruction, History 11....	4		
American Foreign Policy, History 19	4		
Agricultural Economics, History 16		4	
Marketing and Cooperation, History 17		3	
Rural Sociology, History 15			4
Industrial History of the United States 20, 21		3	3
Survey of English Literature, English 34, 35, 36	3	3	3
Advanced Composition, English 16			3
English Drama, English 37, 38, 39	3	3	3
19th Century Poetry, English 40, 41 42....	3	3	3
Modern Literature, English 43, 44, 45	3	3	3
English Novel, English 46	3		
English Essayists, English 47		3	
Spencer, Milton and Pope, English 48			3
Electricity and Magnetism, Electrical Engineering 4	5		
Contracts and Specifications, Civil Engineering 21			2
Food Preparation and Marketing, Home Economics 1, 2		4	4
Food Preparation, Home Economics 3, 4....	4	4	
Dietetics, Home Economics 5, 6		3	3
Meteorology, Agronomy 17		4	
Landscape Gardening, Horticulture 5		2	
French, French 7, 8, 9	3	3	3
French, French 10, 11, 12	3	3	3
Spanish, Spanish 7, 8, 9	3	3	3
Spanish, Spanish 10, 11, 12	3	3	3

PHARMACY**Freshman Year**

	First Term	Second Term	Third Term
Inorganic Chemistry, Chemistry 1, 2, 3.....	3	3	3
Pharmaceutical Latin, Pharmacy 1, 2.....	2	2	
Accounting, Commerce 16	3		
Pharmaceutical Botany, Pharmacy 6	4		
Pharmacy Physiology, Zoology 5, 6	4	3	
Theoretical Pharmacy, Pharmacy 9, 10.....		4	3
Practical Pharmacy, Pharmacy 11			2
Pharmacognosy, Pharmacy 7, 8		4	4
Chemical Problems, Chemistry 21			4
Hygiene	1		
Military Art, Military 1, 2, 3 or			
Physical Training 1, 2, 3	1	1	1
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	18	17	17

Sophomore Year

	First Term	Second Term	Third Term
Materia Medica, Pharmacy 3, 4, 5.....	5	5	5
Theoretical Pharmacy, Pharmacy 12	4		
Organic Chemistry, Chemistry 4	5		
Bacteriology, Zoology 10			4
Dispensing, Pharmacy 14		4	
Dispensing Laboratory, Pharmacy 15		4	
Practical Pharmacy, Pharmacy 13	3		
Drug Assaying, Pharmacy 17, 18		4	4
Prescription Practice, Pharmacy 16			4
Military Art, Military 4, 5, 6 or			
Physical Culture 4, 5, 6	1	1	1
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	18	18	18

Junior Year

	First Term	Second Term	Third Term
Rhetoric, English 1, 2, 3	3	3	3
Advanced Organic Chemistry, Chemistry 9, 10, 11	4	4	4
Urine Analysis, Pharmacy 19	4		
Toxicology, Pharmacy 20, 21		4	4
Electives	5	5	5
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	16	16	16

Senior Year

	First Term	Second Term	Third Term
Survey of American Literature, English 31, 32, 33	3	3	3
Modern History, History 7, 8, 9	3	3	3
Economics, History 13	4		
Sociology, History 14		4	
Electives	6	6	10
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	16	16	16

Departments of Instruction

ANIMAL HUSBANDRY

Professor Wilson; Associate Professor Kuhlman

It is generally admitted that livestock farming is the basis for an intensive agriculture and that it, as well as good farming, must be practiced if the fertility of the soil is to be maintained.

Work in this department gives the student a practical and scientific knowledge of animal husbandry as applied to South Dakota conditions. The College herds and flocks include representatives of eight of the leading breeds of domestic animals. These are all used for class and demonstration purposes. Men having completed this course are well equipped to manage livestock farms and to judge stock shows and to teach.

The following subjects are offered by this department:

1. **Stock Judging.**—Three credits; three two-hour periods per week; first term. Study and practice in judging of horses, cattle, sheep and swine. Special attention is given to the use of score cards both for market and breeding animals.

2. **Breeds of Live Stock.**—Four credits; second term. A study of the various breeds, their origin, development, characteristics and adaptability as to use and locality.

Text: Plumb's Types and Breeds of Farm Animals.

3. **Advanced Stock Judging.**—Three credits; three two-hour periods per week; first term; prerequisite, Animal Husbandry 1 and 2.

Particular attention is given to the placing of animals and the giving of reasons why they are so placed. This course includes the judging of market, breeding and show animals.

4. **Principles of Animal Breeding.**—Three credits; first term; prerequisite, Animal Husbandry 2. This course deals with the laws that govern reproduction and the development of animals, and the different systems employed in producing both market and breeding animals.

5. **Animal Nutrition.**—Three credits; third term; prerequisite, Animal Husbandry 1 and 2, and Chemistry 2. This subject deals with the physical and chemical characteristics of the various feeding stuffs and their relation to practical feeding operations.

6. **Stock Feeding.**—Three credits; first term; prerequisite, Ani-

mal Husbandry 5. A study of the feeding of the various classes of live stock, compounding of balanced rations, results of experimental and practical feeding investigations.

Text: Henry's Feeds and Feeding.

7. **Live Stock Management.**—Four credits; two recitation and two laboratory periods per week; third term; prerequisite, Animal Husbandry 1 and 2. A study of practical methods and principles involved in the management of all classes of live stock. The laboratory work includes demonstrations and exercises in the care and handling of market and breeding stock.

8. **Live Stock History and Pedigrees.**—Three credits; second term; prerequisite, Animal Husbandry 1 and 2. This course includes a detailed historical study of the common breeds, the methods employed by noted breeders, study of pedigrees of individuals and families and their relation to the development of the breed. Lectures, reference reading and laboratory work.

9. **Live Stock Production.**—Four credits; two recitation and two laboratory periods per week; third term; prerequisite, Animal Husbandry 1, 2, 6 and 8. A study of the most successful and economic methods of growing and finishing live stock for market and breeding purposes; arrangement of buildings; founding of herds and flocks; methods of keeping herd records; methods of marketing, etc.

10. **Live Stock Problems.**—One to five credits; throughout the year. Advanced and graduate students who have necessary qualifications may be assigned special problems along definite investigational lines. Such work will include assigned readings, conferences, and in a limited number of cases original work in animal husbandry research.

POULTRY HUSBANDRY

Professor Dakan

The following courses are offered in this department, those in the School of Agriculture not being indicated:

1. **Elementary Poultry.**—First term. Three credits. A general course dealing with the study of Poultry Breeds. .

2. **Elementary Poultry.**—Second term. Three credits. Continuation of Course 1, dealing with the problems of Feeds and Feeding for Egg Production, Growing Chicks and Fattening for Market. Course 1 not a prerequisite.

3. **Incubator and Brooding.**—Third term. Three credits. This course will be a practical course in which the students will operate the incubator and attend to the brooding of chickens.

VETERINARY MEDICINE

Professor Lipp

The prevention of animal disease by the adoption of better animal hygiene, sanitation and care is receiving more attention today than ever before. The reason for this is due to a fuller knowledge of the best methods of applying these measures to the prevention of disease, and to the rapidly increasing desire on the part of stock raisers and others for preventive measures. Even with the most modern methods of treatment, it is truer today than ever before, that preventing animal disease is more desirable and less expensive than treating it. The rapidly increasing value of live stock together with the danger of introducing and spreading disease by the more complex systems of live stock raising and transportation, have increased the rapidity with which diseases spread over wide areas. Thru the necessity for protecting his own interests, the farmer of today is paying more attention to these matters. Indeed the agricultural college that does not give courses that enable its students to act intelligently and in co-operation with the local and state authorities for the prevention and control of animal diseases, fails to fulfill its duty to the state and nation.

All the courses offered by the Veterinary Department have been planned to give students the training that will assist them in the prevention of diseases common to this state. No attempt is made to teach students to diagnose or treat any of the more serious diseases, but rather to recognize their seriousness early and secure the services of trained veterinarians. Treatment suggested is only for those diseases that yield to the action of simple remedies. Every effort is made to have students realize the value of competent veterinary service. They are urged to secure it early and thereby increase the chances for early and complete recovery.

1. **Veterinary Anatomy.**—Two credits; three times per week; first term. This course gives students a knowledge of the structure of the front limb of the horse, and the care needed to maintain it in a healthy condition, and fit for the highest service. The lectures consist of a brief study of the anatomy of the front limb, and a more

detailed study of the structure of the horse's foot. Especial emphasis is placed on the prevention of diseases of the foot.

2. Veterinary Hygiene and Sanitation.—Three credits; first term. This course includes a study of the animal's needs of ventilation, and the best systems of ventilation. Stable lighting, the barn yard, feed lot, and in fact all parts of the barn and its surroundings are considered in their relation to animal health and the prevention of disease.

3. Veterinary Medicine.—Four credits; second term. This course deals with the cause, spread, and control of the common infectious and contagious diseases of farm animals. No attempt is made to develop proficiency in diagnosis, but rather to understand the methods by which these diseases spread, and to teach the student to cooperate intelligently with local and state authorities for their control and eradication.

4. Common Diseases.—Three credits; third term. This course includes a study of many of the commoner diseases, their causes and prevention. Simple treatment and methods of handling are studied in connection with those diseases that can be easily diagnosed, and that yield readily to proper care.

5. Veterinary Physiology.—Four credits; third term. This course includes a study of the processes of digestion and assimilation in horses and cattle. Food is traced from the mouth thru the various digestive processes to the tissues of the body. The use of food within the tissues and the production of waste are then studied, and finally the excretions and their composition.

6. Veterinary Pathology.—This course, three times per week the second term, is a prerequisite for Veterinary Medicine and Common Diseases. The course includes a study of the most common disease processes without reference to any particular disease. The course includes subject matter of general interest to all and of special interest to those planning to study any of the other veterinary courses later.

DAIRY HUSBANDRY

Professor Larsen; Assistant Professor Wright; Mr. Wylie

This department offers two separate courses: (1) The four-years agriculture course, the last two years of which are devoted chiefly to special dairy studies. (2) The three-months dairy course.

The first course has been outlined with a special view of fitting young men to become teachers and investigators of

dairying in public schools, agricultural colleges and experiment stations, inspectors of creameries and dairy products in municipal, state and government service and superintendents of large creameries and dairy farms.

The second course is given with a view of training men to become successful operators of creameries, cheese factories, central plants and dairy farms.

The demand for good men properly trained along dairy lines is great. Compensation for dairy and creamery work is good. Worthy students can depend upon the co-operation of this department in securing suitable work.

The Dairy Husbandry Department operates on a commercial basis a well equipped creamery in which butter, cheese and ice cream are manufactured throughout the year. The department occupies a two-story brick building. On the first floor are the engine room, creamery rooms with full equipment for butter, cheese and ice cream making, refrigerating rooms, locker and reading room, and a large laboratory used for instructional purposes. On the second floor are located class rooms, offices, dairy bacteriology laboratory and chemistry research laboratory.

The dairy herd, which consists of representatives of the principal dairy breeds, affords an excellent opportunity to become acquainted with dairy types. The dairy barn is large and well equipped. Milking machines are in daily use, thus affording students opportunity to acquire practical knowledge regarding machine milking.

Experiments relating to feeding, breeding and care of dairy stock and the manufacture of dairy products are in progress at all times. Students may have the advantage of keeping in touch with these experiments, note manner of outlining and executing investigational work, and profit from results. Advanced worthy students may arrange to assist in some of this work.

The following work is offered:

1. **Farm Dairying.**—Four credits; first term. A study of the economic production, relation of form of dairy cow to production, secretion and composition of milk; of the comparative economy in disposing of and utilizing milk for various purposes on the farm, of

testing milk and its products for fat, acid and common adulterations; of the effects of germs and degree of purity of dairy products; of the separating and handing of milk and cream and the manufacture of butter and cheese on the farm.

2. Inspection and Testing of Dairy Products.—Five credits; second term.

Those taking this course should have at least one term's work in chemistry. It embodies a thorough study of the Babcock test for fat, of the lactometer and its application, of the tests for determining the acidity of dairy products, of the various tests for moisture in butter, of the influence and detection of different preservatives and adulterations, and a study of the various pure dairy food standards.

Laboratory fee \$2.00.

3. Dairy Bacteriology.—Five credits; first term.

In this course are taught bacteriological principles as related to dairying, contamination of milk, fermentations of milk and their control, relation of disease bacteria to milk, preservation of milk for commercial purposes, bacteria as related to the manufacture of butter, cheese, and ice cream. General bacteriology is a prerequisite study.

Laboratory fee \$2.00.

4. Factory Operation (Creamery).—Five credits; third term; prerequisite, Dairy 2.

A thorough study is made in receiving, sampling and separation of milk and cream, the preparation and use of starters, pasteurization and ripening of cream, principles of churning, washing, salting, working, packing and marketing butter. Attention will also be given to the organization, location, construction, drainage, cooling and ventilation of factories and creameries, the economic disposal of factory by-products and various methods of factory refrigeration.

Laboratory fee \$2.00.

5. Factory Operation (Cheese-making.)—Five credits; first term.

This course comprises a study of milk as applied to cheese-making, the manufacture of hard and soft cheeses, including the principles involved in the setting, cutting, cooking, dipping, milling, salting, pressing, curing and marketing of cheese.

Laboratory fee \$2.00.

6. Dairy Management.—Five credits; third term. The various methods of improving and upbuilding a dairy herd, and the advanced judging of dairy stock will be emphasized, methods of weighing, testing and recording feed consumed and milk produced by each cow will be outlined. The history and adaptability of various dairy breeds to different conditions and relation of dairy types to milk producing capacity will be studied. This course will also embody a study of the extent to which dairy farming is practiced and under what conditions it is best applicable, of dairy farming as an adjunct to general

farming and the arrangement and construction of dairy farm buildings, stalls, yards, etc.

7. Dairy Technology.—Five credits; third term; prerequisites, Chemistry 2 and Dairy 3.

This course treats of the ways in which milk and its products are utilized outside of the scope ordinarily embraced under dairying. It comprises such subjects as value of milk as a food, the preparation of certified, modified, standardized, fermented and condensed milk, the manufacture of casein, milk ivory, milk sugar, renovated butter and oleomargarine.

Laboratory fee \$2.00.

8. Dairy Research.—Second term. A study of various views held by different authorities on certain important dairy subjects, a digest of recent dairy work of the experiment stations, and of comparative dairying as practiced in leading countries.

9. Dairy Practice.—The college has a commercial creamery and cheese factory in operation every day during the year except Sunday. Students who specialize in dairying and need practical experience should make it a point to take this course. Arrangements can be made to do this practical work at almost any time during the year. Vacation time is recommended.

10. Domestic Dairying.—Two credits; first term; elective. This course includes lectures and laboratory work on such phases of dairying as will be of greatest interest and value to ladies and home life, such as properties of milk, the various uses of milk, and each of its component parts for the home as well as for commercial purposes, and the relation of germs to quality of dairy products and to consumers of dairy products. The detection of adulteration of milk and dairy products, modification of milk, the use of the Babcock test for fat, effects of different ferments on milk and dairy products, and the making and judging of cheese and butter will be demonstrated in the college creamery laboratory.

11. Advanced Inspection of Dairy Products.—Four credits; second term; prerequisite, Dairy 2, Chemistry 3.

This course takes up a study of the properties of the component parts of milk and its products including abnormal milk, condensed and powdered milks, butter from neutralized cream, oleomargarine and leading types of cheese.

12. Advanced Dairy Bacteriology.—Four credits; third term; prerequisite, General Bacteriology and Dairy 3; elective. This course is a continuation of Dairy Bacteriology (Course 3). It includes a study of isolation of the bacteria of special importance in the dairy industry, such as thorough acquaintance of characteristics of the bacteria that produce undesirable fermentations, bitter milk, slimy milk, gargety milk; gassy cheese and condensed milk, rancid butter, etc.—

and pathogenic organisms especially important in connection with market milk supply. It also includes the study of the desirable bacteria, such as lactic acid producing organisms, those that produce desirable flavors in dairy products and the pure cultures widely used in connection with fermented milk drinks.

13. **Dairy Extension.**—Four credits; second term; prerequisite, Dairy 1, 2 and 6; elective. This study emphasizes chiefly the subjects applied in different methods employed in the co-operative improvement of dairy cattle, co-operative building of silos, formation of cow testing associations and methods of keeping the various records, the making of official records with cows belonging to the various breeds, and the formation of co-operative creameries and co-operative marketing of dairy cattle and dairy products.

14. **Dairy Seminar.**—One credit; third term.

HORTICULTURE AND FORESTRY

Professor Hansen

In this department the work is given from two standpoints. From the one, especially in the study of genetics, emphasis is placed upon the general philosophy of the subject as being essential to a general education. The claim is made that some of the principles of horticulture and forestry are essential to any well rounded education and to the best preparation for citizenship. The second standpoint is that of students intending to make a life work of horticulture or forestry, either as a business or a profession. Throughout the course full use is made of the student's attainments in the various sciences underlying these subjects. The variation of plants and the principles and methods of their development under the hand of man are considered, as well as their propagation and cultivation.

Field and laboratory exercises emphasize the lectures and recitations of the class room. The habit of independent investigation and close observation is encouraged by requiring written reports of outdoor excursions or demonstrations. Excellent facilities for practical illustration are offered by the ninety acres of experiment station horticulture grounds and college campus. In this domain are included orchards, forestry plantations, nurseries, vegetable gardens, small fruit

plantations, flower borders and a collection of ornamental plants. Special attention is paid to the breeding of hardy fruits adapted to prairie conditions and the work in this line is now second to none in extent. The department greenhouses consist of two sections, one for the general floriculture work and the other for fruit-breeding experiments. In addition, the horticultural buildings contain class rooms, laboratory, grafting and potting rooms and storage cellars.

Special stress is placed upon practical work in the grafting room.

The following work is offered.

1. **General Horticulture.**—Four credits; first term, freshman year. Two lectures or recitations and two three-hour laboratory exercises. An introduction to the various divisions of horticultural work, especially the propagation of plants and the best western nursery methods of planting, pruning and cultivation. Special attention is given to the grafting and budding of fruit trees. Elementary exercises in the identification and description of fruits and the origination of new varieties. Some field exercises to develop the habit of quick and accurate observation. Students are required in their laboratory notes to give the reason why as well as the method.

2. **Floriculture and Market Gardening.**—Spring term, sophomore year; two credits. One lecture or recitation and two double-period laboratories, or two three-hour laboratories.

The commercial and amateur cultivation of flowers and vegetables under glass and in open air; lectures, demonstrations and text book work.

3. **Forestry.**—First term, junior year; two credits. Two lectures or recitations or one lecture or recitation and one two-hour laboratory exercise. Principles of forestry; the influence of forests on climate; timber planting on the prairies; European forestry methods as modified by prairie conditions; shelter belts; the propagation, cultivation, characteristics and use of forest trees. Lectures and demonstrations.

Texts: Pinchot's *Primer of Forestry*; Cheyney's *The Farm Woodlot*; Green's *Forestry in Minnesota*; *Proceedings of the American Forestry Congress*.

4. **Systematic Pomology.**—First term, senior year; two credits. Three two-hour laboratories. Principles of fruit culture with special reference to prairie conditions; exercises in the identification and description of fruits.

Texts: *American Horticultural Manual*, *Bailey's Principles of Fruit Culture*; many bulletins and reports.

5. **Landscape Gardening.**—Second term, junior year; two credits. Three two-hour laboratory exercises. The philosophy of the beautiful in its various modes of expression, gardening as one of the fine arts; historic developments of the ancient or geometric and the modern or natural styles; the best ornamental trees, shrubs, plants and hedges. Special attention is paid to the development of originality in the planning and laying out of country and city home grounds, parks and school grounds. Lectures; many text books and references.

6. **Plant Materials.**—Spring term, junior year; two credits. Two two-hour periods with text book assignments. A field and laboratory study of the trees, plants, shrubs and flowers used in Landscape Gardening.

7-8-9. **Nursery and Greenhouse Management.**—Two credits each term. A field and laboratory study of nursery and greenhouse operations throughout the school year. Carefully written reports are prepared. This is supplemented by the required practical work outside of the school year. Periods by appointment.

10. **Experimental Horticulture.**—Spring term, senior year; two credits. Two lectures or recitations; prerequisite, Courses 1-7. A survey of some of the chief problems. An effort is made to develop the spirit of initiative and originality in research work.

AGRONOMY

Professor Hume; Associate Professor Hutton; Associate Professor Champlin; Mr. Loomis; Mr. Fowlds.

The Agronomy Department is the department of soils and crops. To help students apply the principles of science to crop production on the farms of South Dakota is the essential purpose of the courses offered.

What is soil in South Dakota, or on some farm within the state? The student may learn to outline soil areas, to analyze soils, to observe field experiments, and answer the question for himself.

What crops will grow in South Dakota soil areas, and how may the growing of them be made most profitable to the man who does the work? A study of the results of experiments will answer the questions for the student. It is attempted to give the student in agronomy that accurate knowledge of conditions which is necessary to success in farming.

The courses offered are fundamental, practical, scientific. They are designed for South Dakota farmers. They may be pursued with profit by prospective teachers of agriculture, or experiment station workers.

1-2. Grain and Root Crops.—Seven credits; three second term and four third term. Production and marketing of the common field crops including barley, corn, flax, oats, potatoes, rye and wheat. Classification, judging and grading of seed. Open to all college students. Required of all agriculture students.

Laboratory fee \$1.00 per term.

3-4. Crop Breeding.—Six credits; three second term and three third term. A discussion of the principles of cropping with emphasis laid upon improvement by selection and breeding. Dealing chiefly with principal field crops of South Dakota—corn, wheat, oats, barley, potatoes, alfalfa. In addition to text book references, current articles will be reviewed from such magazines as *The Journal of American Society of Agronomy*, *Science*, *The Journal of Heredity*. Students of this course may be requested to subscribe for at least one such magazine. Required of all agronomy students.

5. Field Management.—Three credits; second term; prerequisite, Agronomy 1. Arrangement and management of crop rotations with special reference to cost and profit under South Dakota conditions.

6. Forage Crops.—Three credits; first term. Production and marketing of field crops including meadow and pasture grasses, millets, prosos, sorghums, hemp, clovers, field peas, field beans, soy beans, etc. Open to all college students.

7. Seed Inspection.—Two credits; first term. Seed testing, seed impurities and methods of eradication of weeds from farm crops and seeds, studies of the characteristics of crop impurities from the standpoint of eradication, such as quack grass, Canadian thistle and wild oats.

8. Field Crops.—Elective. Four to eight credits; prerequisite, Agronomy 2. Special problems for advanced students. The advanced student may become interested in some particular line of investigation, as crops for forage, a problem in corn breeding, the effect of storing of seed of corn or other crops upon germination and growth, the effect of various methods of cultivation and problems of crop improvement. Such work may imply a study of previous experiments, cropping experiments in green house or on the field. The student may be required to submit a final report or thesis. Time and number of hours to be arranged with instructor in charge.

9. Crop Inspection.—Three credits. Advanced grain judging, examination of the several varieties of cereals, root and forage crops,

with special reference to resistance to adverse weather conditions and diseases, examination of crops in the field, experiment plots and prepared specimens. Arrange time.

10. Soil Physics and Management.—Four credits; first term; prerequisites, Physics 1 and 2, Chemistry 1, 2 and 3. Required of all agriculture students. The work in Soils continues throughout the year. The first term is devoted to Soil Physics and Management, the second and third terms to Soil Fertilization. This course deals with the origin and development of the soil under different climatic conditions; classification of soils upon several bases; texture, porosity, specific gravity, plasticity, capillarity, granulation of soils; the soil as a reservoir for water; the movement and control of soil water; irrigation and drainage; the alkali problem; aeration of the soil; its relation to soil texture and plant growth; soil temperature; the physical effect of manures upon the soil; soil erosion by wind and running water—blowing and washing—and their control; the practical application of the foregoing to methods of tillage; crop rotations and the application of green and farm manures in the management of different types of soil. The laboratory work includes a careful study of the physical properties of the soil through observation and practice; soils are also studied under field and green house conditions. Laboratory fee \$2.00. Deposit \$2.00.

11-12. Soil Fertility.—Four credits second term and four credits third term; prerequisites, Agronomy 1 and 10, and Chemistry 4. The relation of the fertility content of the soil to crop yields; effect of supplying various elements of fertility; effects of different rotations and systems of farming in relation to permanent agriculture; a study of a system of agriculture in relation to permanent agriculture; a study of systems of agriculture adapted to South Dakota conditions. The laboratory work includes the analysis of manures and fertilizers and the determination of their agricultural and commercial values; the analysis of various farm products; the analysis of a soil, preferably from the student's home farm, to determine fertility content. These analyses serve as the basis for devising a system of permanent agriculture for the student's home farm. Laboratory fee \$2.00 per term. Deposit \$2.00 per term.

13. Advanced Soil Physics.—Four credits; first, second or third term, prerequisite, Agronomy 10. This course is designed for students who wish to continue the work in Soil Physics begun in Agronomy 10. A study in the field of the effects of discing, harrowing, rolling, subsoiling, frequency and depth of cultivation with reference to conservation of soil moisture. The student may select a soil in which he is interested and make a complete physical analysis thereof; he may make a careful study of the movement of the water therein and its effect upon the growth of plants; he may choose a special irrigation or drainage problem in which he is interested; the results of the work are sum-

marized in a final report or thesis. Students who elect this course are advised to signify their intention of so doing at the end of the college year, so that materials may be collected during the summer, and observations reported.

14. Advanced Soil Fertility.—Four credits; first, second, or third term; arrange time; prerequisite, Agronomy 10. This course is a continuation of Agronomy 10 and permits the students to study in detail a special soil in which he may be interested or to pursue a special problem. The work may include pot culture work in the green house; analysis of the soil used in the pots; application of various fertility elements and their relation to the management of the soil; the study of the micro-organisms of the soil in relation to the preparation and availability of plant food, preparation of culture media, cultures from soil suspensions, preparation and study of a few pure cultures, ammonification, nitrification, nitrogen fixation, legume bacteria and conditions favorable to their growth, inoculation; results of bacterial action determined by quantitative analysis; reading of bulletins, books, etc., and the preparation of a bibliography. The results of the study will be submitted to a final report or thesis.

15. Irrigation and Drainage.—Three credits; first, second or third term. A consideration of the effects of the change in water contents of soils through irrigation and drainage; the effect upon the physical condition of the soil and upon its productivity, special attention given to the problems of irrigation and drainage of unreclaimed lands in South Dakota. Lectures, reading, field observations.

16. Earth Science; Geology.—Five credits; first term. A course in general geology with the greater emphasis placed upon the physical division of the subject. The geology of South Dakota in relation to soils, water supplies and mineral wealth is given special attention. Collections of rocks, minerals, typical fossils, physiographic and geologic models, lantern slides, charts and maps are available for laboratory work and reference. Laboratory fee \$1.00.

17. Earth Science; Meteorology.—Four credits; second term. A practical course dealing with the laws controlling the movements of the atmosphere, the study of climatological and weather factors, with special attention to conditions in the United States, the climate and weather of South Dakota in relation to her various economic interests, weather maps and forecasts. Laboratory fee \$1.00.

18. Feed Crops.—A course of lectures on crop production from the standpoint of feeding, offered to the short course students in dairying at the request of the Dairy Husbandry Department.

Graduate Courses.—A limited number of courses of study may be arranged for students who have already received the Bachelor's Degree and who desire to pursue some line of investigational work. Such students should consult with the professor in charge. Problems

relating to systems of farming and soil fertility, mechanical composition of soils, drainage water, variation in type as related to crop yields, influence of selection and breeding upon yield of special crops may be included in a list of possible studies for graduates.

HOME ECONOMICS

**Professor Carlson; Assistant Professor Cline; Miss Leaton;
Miss Swift; Miss Somers; Mrs. Weber**

The Home Economics Department will the coming year be installed in a new building. Equipment has been chosen with the view of making the department and all work given therein up to the standard of other state colleges. A practice cottage in which every senior girl will be expected to live a term of weeks to prove and apply what she has learned in home management, will be established and equipped by fall.

New subjects are to be offered which will train students to enter the numerous fields now open to home economics graduates. Among such positions are, dietitians, institutional managers, extension workers, commercial food workers, tea room managers, caterers, costume designers, directors of specialty stores, etc. The chief aim is to reach as many of the young women of the state as possible and give each one a training which will fit her for a home and also give her a profession to follow.

In order that students may fill positions as teachers in the various types of school, special courses are given in the theory and practice of teaching home economics together with lessons in practice teaching which gives the student experience in conducting classes. Observations and criticisms of each student are made by an instructor. All the requirements of the Smith-Hughes Law for Vocational Education are fulfilled and graduates are given certificates for teaching vocational home economics.

Graduates who have done successful work find no difficulty in getting good positions, either thru the college bureau or otherwise.

Below is given the description of courses offered in the

Home Economics Department. Other electives will be added as the demand grows for them.

1. **Food Preparation and Marketing I.**—One recitation, two laboratory periods; four credits; second term; prerequisite or parallel, Chemistry 1. This course aims to give the fundamental principles and processes involved in the choice, preparation and serving of foods and food combinations. Use of different fuels, apparatus, weights and measures, thermometers, etc., is included. Emphasis is placed on the source and manufacture, marketing, care, economic and dietetic phases of food. Elementary principles of serving, table manners, etc., are introduced in the course. Text and reference work required. Laboratory fee \$3.00.

2. **Food Preparation I, Continued.**—Four credits; third term. Laboratory fee \$3.00.

3. **Food Preparation II.**—One recitation, two laboratory periods; four credits; first term; prerequisite, Food Preparation I or its equivalent. This course includes the study of the methods of food preservation with laboratory work in canning, jelly-making, pickling, drying, etc. The question of commercial versus home products is discussed and original problems presented to the class. The rest of the course is devoted to the planning of menus and preparation of meals. Emphasis is placed on the cost, nutritive value, economy and efficiency of time, labor and effort. Marketing for the lessons is done by the students. Text and reference work required. Laboratory fee \$3.00.

4. **Food Preparation II, Continued.**—Four credits; second term. Laboratory fee \$3.00.

5. **Dietetics.**—Three recitations, one laboratory period; three credits; second term; prerequisite, Food preparation I and II and Organic Chemistry. The course consists of a study of the fundamental principles of human nutrition and the application of these principles under varying conditions of age, environment, etc.; the nutritive value and function of food; the determination of proper food requirement. Menus and dishes suited to these different conditions are prepared in the laboratory. The latest and best material published on the subject of nutrition and dietetics is used for reference work. Text and reference work required. Laboratory fee \$3.00.

6. **Dietetics, Continued.**—Three credits; third term. Laboratory fee \$3.00.

7. **Special Problems in Cookery.**—One recitation, two laboratory periods; four credits; first term; elective, open to juniors and seniors. This course presents problems concerning the food questions of today. Comparisons are made as to the value and efficiency of fireless cooker, double boiler, steamers, pressure cookers, etc. The course is flexible enough to allow for the study of current and local problems. Most of

the work is very individual and gives the student an opportunity to use her own resourcefulness. Text and reference work required. Laboratory fee \$3.00.

8. **Demonstration Cookery.**—One recitation, two laboratory periods; four credits; third term; elective; open to juniors and seniors. The demand for better training in extension teaching, lecture work, commercial work and similar fields is met by such a course as this. Demonstrations are given by instructors, students and specialists from outside the department. Equipment, organization, method of procedure, etc., are discussed in each case. Text and reference work required. Laboratory fee \$3.00.

9. **Home Nursing.**—Two double periods a week; two credits; second term; open to all women students of the college. In this course are given the elements of nursing, the methods best employed in the home for the care of children, the sick and the aged. Care of the sick room, bedmaking, bandaging, simple home remedies and how to meet emergencies, etc., are included. Demonstrations in a hospital are given with the lectures. Text and reference work required. Laboratory fee \$.50.

10. **Elementary Sewing.**—Three laboratory periods; four credits; first term. The work in this course consists of a study of the underlying principles in the making of clothing and their application to various simple garments. Laboratory work includes use and care of sewing machine; use of commercial patterns, mending, patching, etc. Hygiene and proper kind of clothing is emphasized. Text and reference work required. Laboratory fee \$.50.

11. **Elementary Sewing, Continued.**—Four credits; second term; prerequisite, first term of same course. Laboratory fee \$1.00.

12. **Dressmaking.**—Two laboratory periods; three credits; first term; prerequisite, Sewing. This course includes problems in the use of the form; use and alteration of patterns and the construction of waists, skirts and dresses. The elements of costume design are introduced and suitability, quality and cost of goods considered. Text and reference work required. Laboratory fee, \$.50.

13. **Textiles and Laundry.**—Three laboratory periods; four credits; third term; prerequisite, Sewing and Chemistry 1. This course covers the study of the principal textile fibers in various stages from raw fiber to manufactured cloth; weaves; adulterations; economic conditions; clothing budget. Part of the time is devoted to the principles and processes involved in laundry work. Laboratory work is given thruout the course. Text and reference work required. Laboratory fee \$2.00.

14. **Drafting and Dressmaking.**—Two laboratory periods; three credits; third term; prerequisite, Elementary Sewing and Dressmaking. This course teaches the drafting of simple patterns; the making of

wool and silk garments; and renovation of clothing. Opportunity is given for original work in designing. Text and reference work required. Laboratory fee \$.50.

15. Modeling and Advanced Dressmaking.—Three laboratory periods; four credits; third term; prerequisite, Elementary Dressmaking. Suitable dresses, waists and skirts for specific occasions are studied and modeled in paper, cheesecloth, cambric and crinoline on forms. From these designs actual garments are constructed in class. Embroidery stitches and other simple needlework designs are applied to various types of garments. Text and reference work required. Laboratory fee \$1.50.

16. Millinery.—Three laboratory periods; four credits; second term; prerequisite, Sewing and Dressmaking. This course includes the construction of different types of hat frames; covering of frames; making of simple trimmings, such as cords, bows, folds, etc. Various kinds of hats are renovated and retrimmed. Text and reference work required. Laboratory fee, \$.50.

17. Household Management.—Three recitations, one laboratory period; three credits; first term; required of seniors. This course organizes and applies all the principles learned in the subjects of the department. It includes a study of efficient housekeeping, budgets and accounts; domestic service, community enterprises, etc. The purposes, functions and activities of the home are fully discussed. Laboratory work takes up the problems of cleaning, renovating, repairing, labor saving methods, etc. Text and reference work required. Laboratory fee \$1.00.

18. Household Management, Continued.—Three credits; second term; required of seniors. Laboratory fee \$1.00.

19. Practice Cottage.—Three credits. Before receiving a degree all seniors are required to live for a period of nine weeks in the cottage. The work is planned and done entirely by the students. A home economics faculty member lives in the cottage and supervises the work.

20. Institutional Management.—Three recitations, laboratory to be arranged; five credits; third term; open to seniors. Skill in buying, handling, storing and preparing large quantities of food and problems of menu planning, marketing, selection of equipment, management of servants, accounting, etc., are taught in this course. Laboratory practice is obtained in the dormitories and thru college functions. Text and reference work required. Laboratory fee \$1.00.

Theory and Practice in Teaching Home Economics.—Same as Education 7; three recitations; three credits; first term; prerequisite, Psychology, History of Education, and Principles of Teaching. Discussion and problems in this class cover the standards and methods of Home Economics Education in various types of schools. Courses

of study; lesson plans, observation reports, special readings and demonstrations before the class are planned and worked out. A study of school organization and management in relation to Home Economics teaching. Text and reference work required.

Theory and Practice in Teaching Home Economics.—Same as Education 8. Three credits; second term; three recitations per week.

Practice Teaching in Home Economics.—Same as Education 9; any one term; periods to be arranged; required of students taking Teachers' Training Course in Home Economics. This course runs parallel to Education 7 and 8. Students are given the responsibility of taking part or full charge of classes in sewing and cookery in the public schools and in the School of Agriculture.

24. **Hygiene.**—One recitation; one credit; first term. This course includes a general study of hygiene of the person, clothing and surroundings with consideration of social and ethical questions.

25. **Social Usage.**—One recitation; one credit; second term. This course includes lectures, recitations and discussions on correct manners and behavior, table manners, social courtesies, etc.

26. **Survey of Home Economics.**—One recitation; one credit; third term. This course introduces the student to the Home Economics subjects by giving a survey and correct outlook as to the importance of this field.

MECHANICAL ENGINEERING

**Professor Solberg; Professor Hoy, Assistant Professor Bonell;
Mr. Andrews**

The object of the work offered is to give the students a thorough training in the theoretical principles underlying the science of mechanics and machines and at the same time to enable them to become particularly familiar with some of the numerous applications of these principles.

The instruction is both theoretical and practical. The usual methods of text-book study and lectures are employed, but the student is required to put into practice, as far as possible, the instruction he receives. Hence the work of the classroom is supplemented and practically exemplified by practice in shops. The student not only studies the theories of constructing and operating machinery, but in the drawing room he designs, and in the shop he constructs and operates such machines. It is believed that those who complete this course

will be able to fill responsible positions in manufacturing establishments.

The department is located in the Engineering Building. The workshops are supplied with a large variety and quantity of tools. They are furnished with twenty-five sets of carpenter tools and with eight wood turning and one pattern maker's lathe, a scroll saw, a combination circular saw and a twenty-inch planer. There is also a variety of special tools for wood working.

The machine shop is furnished with a large number of engine lathes of different sizes, universal milling machine, shaper, planer, tool grinder, drill press, emery wheels and a great variety of hand tools. The machinery is driven by a 50-horsepower steam engine.

The Experimental Engineering Laboratory is equipped with a 100,000 pound vertical screw testing machine, for making tensile and compressive tests of the various materials of construction; an automatic shot cement briquette testing machine; a gas engine; a 10 by 10 steam engine; an 8 by 10 steam engine; a 5 by 7 steam engine; and there are also available for this work a 12 by 14 steam engine and two 48 by 16 horizontal tubular boilers. A calorimeter for determining the heat values of gases; a calorimeter for making British thermal unit tests of coal, and an apparatus for flue gas analysis are also used in this work.

The laboratory also possesses a large amount of small apparatus such as indicators, planimeters, steam gauges, thermometers, etc., and a complete outfit for making tests of sand, cement and concrete.

Work in architectural drawing and designing is offered. Additional work along this line will be given to students who desire it.

The following work is offered:

1. **Carpentry and Wood Turning.**—Three or more credits each term as arranged for. Demonstration and work in the care and use of wood working tools. Talks on design of furniture, cabinets and frames. Practice at the bench in the working of a variety of woods and finishes. Work in framing or building construction. The study of manual training outlines. Laboratory fee \$.75 per credit hour.

2. **Forging.**—Two or more credits each term as arranged for. Demonstrations and work in the care and use of the fire and forging tools together with the work in iron, mild steel and tool steel. The class work will include work in bending, drawing out, upsetting, shaping and tempering of tools, and art smithing. The course will offer a good outline in metal work for manual training. Laboratory fee \$.75 per credit hour.

3. **Machine Shop.**—Three credits; second term. Includes a study of the materials used in machine work; shop sketching; methods of laying out work; exercises in pipe fitting, chipping, filing, scraping, belt lacing, shaft aligning, babbiting, riveting, soldering, hand and ratchet drilling; and the elementary principles of machine work. Laboratory fee \$.75 per credit hour.

4-5. **Machine Shop.**—Two credits; third term of freshman year and three credits, first term of sophomore year. A study of the principles and methods of machine work; problems involving the use of the various machine tools, as the lathe, planer, shaper, milling machine, drill grinder, drill press, etc. Regular text book and class work supplements the actual work in the shop during both semesters of machine shop. Prerequisite, Machine Shop 3. Laboratory fee \$.75 per credit hour.

6-7. **Engineering Drawing.**—Three credits; first term. Two credits; second term. Instrumental, geometrical problems and parts of machines. This work is offered during the entire year.

8. **Architectural Drawing.**—Two credits; first or second term. Rendered drawings of simple buildings, examples of various orders, giving facility in draughtsmanship, familiarizing students with principles.

9. **Architectural Design.**—Two credits; first term. Principles of planing introduced in practical problems, exercises in composition and details.

10. **Descriptive Geometry.**—Two credits; third term; prerequisite, plane geometry. Instruction in methods of representing by drawing all geometrical magnitudes and solution of problems relating to these magnitudes in space.

11. **Machine Design.**—Three credits; second term. Solution of various problems involving the design of simple parts of the machine.

12. **Elements of Mechanism.**—Four credits; third term. Elements of machinery, velocity ratios, graphic representation of speed and acceleration; motion transmitting parts, such as gears, belts, cams, screws, link work; automatic feeds, parallel and quick return motions; designing. Text: Wood and Stahl.

13-14. **Steam Engines and Thermodynamics.**—Three credits, second term; three credits, third term; prerequisite, Calculus. Study

of the modern steam engine, slide valve, and when in combination with independent cut-off valves, link motion and Zeuner diagrams, reciprocating parts and indicator practice; the principles of the theory of heat which are necessary to a study of the various kinds of heat engines; the application of laws of thermodynamics to the steam engine and a study of steam engine economy by entropy temperature analysis and by other graphical methods. Text: Ripper's Steam Engine.

15. **Steam Boilers.**—Three credits; second term; prerequisite, Mechanical Engineering 16. Advantages and disadvantages of using the various forms of boilers, methods of construction, tubes, plates, riveting, bracing, grate and heating surface, gauges and feed appliances, setting, care and operation. Text: Peabody's Steam Boilers.

16. **Gas and Oil Engines.**—Two credits; third term; prerequisite, Thermodynamics. Study of the theory, design and operation of gas, gasoline and oil engines and of the various types of gas producers.

17. **Machine Design and Kinematics.**—Three credits; first term, junior year. Continuation of Machine Design and problems in the design of motion transmitting appliances.

18. **Engineering Laboratory.**—Four credits; first term; prerequisite, Mechanics of Materials. Testing of materials of construction including investigation of problems in connection with use of concrete.

19. **Engineering Laboratory.**—Two credits; second term. Includes testing of gauges, thermometers, planimeters; determination of heat value of coal; use of steam and gas engine indicators; throttling and separating calorimeters, dynamometers and Prony brakes; and complete efficiency tests of engines and boilers under actual running conditions. It is the endeavor in this work to make the student familiar with the construction and operation of steam engines, steam boilers, gas engines and the many attachments and auxiliaries necessary for their efficient operation. Laboratory fee \$2.00.

20. **Heating and Ventilation.**—Three credits; third term. A study of the principles underlying the design of the various systems of heating and ventilation in common use, including such details as loss of heat from buildings, problems in proportioning ventilating ducts; and the arrangement of systems of piping for steam and hot water. A study is also made of the various mechanical details entering into the installation of private plants and also plants operated from central stations.

21. **Engineering Design.**—Five credits; second term, senior year. Continuation of Mechanical Engineering 13, with special reference to steam machinery. Solution in the drawing room of some practical problems in design and making working drawings of same.

22. **Power Plant Design.**—Four credits; third term, senior year. Design of a power station including buildings and roofs for an up-to-date plant.

ELECTRICAL ENGINEERING

Professor Brackett; Mr. Phillips

The purpose of the work offered in Electrical Engineering is to impart to the student a practical knowledge of the principles of applied electricity. A well equipped laboratory is provided for the use of the student to supplement the lecture and recitation work of the class room. The laboratory equipment consists of generators and motors of both direct and alternating current types, transformers and measuring instruments of different types and classes for recording and measuring currents, pressures and speeds. A sixty-cell storage battery is used in connection with the work in photometry. Various types of lamps, arc and incandescent, lamp banks, rheostats, and other apparatus are also available.

The student will be taught how to set up and adjust for the best conditions of operation all the usual types of dynamos, motors, transformers and standard auxiliary apparatus. Much additional laboratory work will be given to develop a clear understanding of the fundamental principles involved in the design of modern electrical machinery and in the most advanced engineering practice. The knowledge to be derived from this work is very important in the practical operation of electrical machinery and systems, but it cannot be obtained directly under the conditions of commercial service, where most of the apparatus must be used in one way only at all times.

The following courses are offered:

1. **Applied Electricity.**—Two credits; third term, freshman year. Study of electric circuits as used in house wiring and standard practice for lighting, small motors, heating and cooking. Estimating the size of wires needed, the loss of pressure according to Ohm's law, making and insulating splices and taps, installing switches, fuses, panel-boxes, outlets, lighting fixtures and as far as possible complete wiring systems. All the work will be done by the laboratory method. Laboratory fee \$2.00.

2. **Applied Electricity.**—One credit; first term, sophomore year; prerequisite, Electrical Engineering 1. This course will be a study of the gasoline engine, its ignition systems and their troubles. All standard types of coils and magnetos will be used in both class and laboratory, also standard distributors and breakers. Laboratory fee \$1.00.

3. **Applied Electricity.**—One credit; second term, sophomore year; prerequisite Electrical Engineering 2. This course will be a continuation of Course 2. Overhauling and repairing of induction coils and magnetos will constitute a large part of the work. At least half of this time will be devoted to a study of generators and motors used in starter systems. Whenever possible outside work will be brought to the laboratory. Laboratory fee \$1.00.

4. **Electricity and Magnetism.**—Five credits; first term; prerequisite, Mathematics 7, 8, 9, Physics 4, and Electrical Engineering 1, 2 and 3. This subject embraces a study of the principles of the electric and magnetic circuits, electromagnetic induction, self-induction and capacity, also direct current dynamos and motors and their uses under ordinary service conditions. Laboratory fee \$2.00.

5. **Direct Current Dynamos and Motors.**—Five credits; second term; prerequisite, Electrical Engineering 4. Principles underlying the design, construction and operation of direct current generators and motors. Experimental study of the behavior of different types of motors and generators, efficiency tests and adjustments of machines for different conditions of service. Laboratory fee \$2.00.

6. **Alternating Currents.**—Five credits; third term; prerequisite, Electrical Engineering 5. Study of the laws of alternating currents, inductance, capacity, principles of construction of alternating current generators and motors, transformers; measurements of inductance and capacity, wave form of pressure and current, tests of machines and transformers. Laboratory fee \$2.00.

7. **Advanced Alternating Currents.**—Five credits; first term; prerequisite, Electrical Engineering 6. A course similar to Electrical Engineering 6, but taking up the general theory of alternating currents more thoroughly and treating the whole subject more completely. Laboratory fee \$2.00.

8. **Electric Lighting.**—Five credits; second term; prerequisite, Electrical Engineering 1 to 7. A study of the costs of producing electric power, distribution and wiring, selection of lamps and light distribution, interior and street illumination. Laboratory fee \$2.00.

9. **Electric Transmission and Power.**—Five credits; third term; prerequisite, Electrical Engineering 8. This course will include uses of electric motors, relative advantages of different types, individual and group drives, different system of transmission, converters, substations and regulating apparatus. Laboratory fee \$2.00.

10. **Dynamo Design.**—Three credits; second term; prerequisite,

Electrical Engineering 1 to 7. In this course the student works out the design and makes drawings for a shunt or compound wound direct current generator or motor. The object of this course is to teach the theory of design of machines and to familiarize the student with the details and parts of the machine in relation to each other and to the machine as a whole.

11. Journal Class.—One credit; third term; prerequisite, Electrical Engineering 1 to 5 and 6 co-ordinately with this subject. Articles in leading electrical and other engineering journals will be assigned in advance to individual members of the class and abstracted reports of these articles will be read at each meeting. A wide variety of apparatus and installations will be covered in the course.

12. Electric Traction.*—Five credits. Various features of electric car and train operation will be studied. Among these will be types of cars, motors and controlling apparatus, the operating characteristics of various types of equipment, power stations for this kind of service, transmission lines, substations, and distributing systems. A considerable portion of the time assigned for laboratory work in the subject will be given to the inspection of traction systems in actual operation upon which accurate and detailed reports will be required.

13. General Principles of Electrical Engineering.*—Three credits. The course will consist of a mathematical treatment of the fundamental principles of electricity and magnetism, and the application of these principles to circuits, systems and machines in regular commercial use. In some ways the course will be a review of all the electrical work of the two preceding years, but for the most part the methods used will be quite different and much more comprehensive. The object of the course is to give the student a better perspective of the whole subject of applied electricity and to develop more direct methods for solving problems in this field.

14. Electrical Design.*—Three credits. A study of the design of transformers, alternating current generators, induction motors, or some special kinds of apparatus, and the principles involved in the construction of the above.

15. Power Stations.*—Five credits. A study of the different types of stations, arrangements of boilers, engines, machines, switchboards and electrical apparatus, location of station with respect to distributing system; station operation and maintenance. A station design is worked out by the student and drawings of plans made, while according to circumstances, more or less of the laboratory time will be spent on experiments and tests relating to plant operation and control.

16. Long Distance Transmission.*—Two credits. Study of long distance line construction, protective apparatus, switchboards, cut-outs, regulating devices, etc., as exemplified in the latest practice; study of recent construction and installations, and application of theory. Pres-

ent theoretical and practical limitations to efficient and profitable distribution over large areas, and the possibilities of future development.

17-18-19. **Thesis*.**—Two or three credits each term. A complete investigation of some electrical subject or apparatus or the design of a machine or other electrical appliance, containing when possible the results of personal and independent observation. The subject must be selected early in the year (not later than November first), and reports concerning the progress of the work submitted from time to time, to the professor in charge.

*These subjects can be taken by advanced students only. The exact prerequisite, the time and other conditions must be passed upon in advance by the head of this department before classes will be formed.

CIVIL ENGINEERING

Professor Willis

The course in Civil Engineering is planned to give a broad education in both general and scientific subjects, and a thorough training in the principles underlying all engineering, with as much special training as time will permit in those subjects belonging particularly to the field of the civil engineer. The following are some of the many lines of work open to those graduating from this course: Surveying and Map Making; Highway Construction; Railroad Surveying, Construction and Maintenance; Bridge and Structural Steel Design; Concrete Building Work; the Design, Construction and Operation of Water Supply, Sewage Disposal and Irrigation Systems; Municipal Engineering and engineering work under the civil service.

The greater part of the time of the freshman and sophomore years is devoted to the fundamental studies which give both general culture and preparation for the technical work of the following years. The study of Mathematics, English, Public Speaking, Chemistry and Physics is carried on, considerable laboratory practice being given. Work in Mechanical Drawing and Machine Design is done by each student, while some Machine Shop and Forge Shop practice is given. The theory of Plane and Topographical Surveying accompanied by field work and map making is begun in the freshman year and is continued in the sophomore year.

Nearly all of the time of the junior and senior years is devoted to purely engineering subjects. Several of these subjects are given under the supervision of the Mechanical and Electrical Engineering Departments. The line separating one engineering profession is naturally not sharply defined, and all engineers should be able to solve problems of a general engineering character as well as those coming specifically in their own field. Therefore it is important that the civil engineering student take as much work in the allied engineering subjects as possible. The greater portion of the student's time during his junior and senior years, however, is devoted to work given under the direct supervision of the Civil Engineering Department. This work falls somewhat naturally into three groups, as follows: (1) Hydraulics, Sanitary Engineering and Irrigation; (2) Highway Construction, Railroad Surveying, Railroad Engineering and Contracts and Specifications; (3) Mechanics of Materials, Graphic Statics, Stresses, Structural Steel Design, Plain and Reinforced Concrete, Bridge Design and Higher Structures.

The department is provided with suitable field and drafting room equipment, including transits, levels, plane-table, solar attachment, compasses, sextant, current meter, planimeter, tapes, rods and other hand instruments.

Men completing the work of the four-years course in this department are graduated with the degree of Bachelor of Science (B. S.). Those completing the additional fifth year course of study are given the advanced degree of Civil Engineer (C. E.).

A detailed description of each subject offered by the department follows:

1. **Plane Surveying.**—Four credits; third term. The theory and practice of land surveying, including United States land surveys, computation of areas, dividing land and determining heights and distances. Field work with level and transit in determination of heights and distances and in making surveys of farms. Preparation required: Plane Trigonometry. Text: Tracy's Plane Surveying. Laboratory fee \$1.00.

2. **Topographical Surveying.**—Three credits; first term; prerequisite, Civil Engineering 1. Continuation of Plane Surveying together with the theory and use of the plane table and of the transit

and stadia. A complete stadia survey is made; and considerable practice is given in leveling, triangulation and the adjustment of instruments. Text: Tracy's Plane Surveying. Laboratory fee \$1.00.

3. **Topographical Drawing and Map Reading.**—Two credits; second term; prerequisite, Civil Engineering 1 and 2. Engineering lettering and pen topography; a study of scales and contours; the construction of a complete topographic map; and the plotting of profiles from contour plans. Text: Stuart's Map Reading and Topographical Sketching.

4. **Hydraulics.**—Four credits; first term; prerequisite, General Physics, Analytic Geometry and Calculus. Hydrostatics and Theoretical Hydraulics. The study of the flow of water through orifices, tubes, pipes, over weirs, in conduits, canals and rivers; and the application to engineering, to water power and to water power development. Text: Merriman's Hydraulics.

5. **Irrigation Engineering.** Two credits; third term; prerequisite, Civil Engineering 4. A study in the principles of irrigation engineering; namely; a consideration of fundamental questions underlying the design and construction of works for holding and controlling the waters needed for agriculture; and of those matters necessary to insure the financial success of the enterprise. Text: Newell & Murphy's Irrigation Engineering. Seniors and juniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1921.

6. **Graphic Statics.**—Three credits; second term; prerequisite, Analytic Geometry and General Physics. Shears and bending moments in beams, center of gravity and moment of inertia of cross-sections, determination of stresses in roof trusses, mill bents and three hinged arches by graphical methods. Text: Merriman and Jacoby's Roofs and Bridges, Part 2.

7. **Mechanics of Materials.**—Five credits; second term; prerequisite, Calculus and Analytic Mechanics. A study of the strength and elastic properties of timber, brick, stone, cast iron, wrought iron and steel. The theory of beams, columns and shafts, with the solution of practical problems. Text: Merriman's Mechanics of Materials.

8. **Mechanics of Materials.**—Three credits; third term; prerequisite, Civil Engineering 7. A continuation of C. E. 7 with a study of combined stresses, impact and fatigue, true internal stresses, the application of the principle of least work and the solution of problems. Text: Merriman's Mechanics of Materials.

9. **Railroad Surveying.**—Two credits; third term; prerequisite, Civil Engineering 1, 2 and 3, and Calculus. Reconnaissance, preliminary location methods, with the theory of curves and turnouts. The computation of earth-work and the estimate of costs. Text: Allen's Railroad Curves and Earthwork. Seniors and juniors will take this

subject at the same time, and it will be given in alternate years only. It will be given in 1920. Laboratory fee \$2.00.

10. **Stresses.**—Four credits; third term; prerequisite, Graphic Statics and Mechanics of Materials. The theory and the computation of stresses in roof and bridge trusses under dead, live and wind loads. Locomotive wheel loads on plate girders and bridge trusses. Text: Merriman and Jacoby's Roofs and Bridges, Part 1.

11. **Structural Steel Design.**—Three credits; first term; prerequisite, Civil Engineering 6, 7, 8 and 10. Lectures on shop practice in making drawings, and in designing connections and other details for structural steel, including the design of beams, bearings, columns and girders. Actual practice in the design and in the making of general and detailed drawings of beams, columns, grillages, and a roof truss. Reference Books: Conklin's Structural Steel Drafting and Elementary Design; Carnegie Steel Handbook.

12. **Bridge Design.**—Three credits; second term; prerequisite, Civil Engineering 6, 7, 8, 10 and 11. The design and the making of general and detailed drawings for a plate girder and a riveted truss highway bridge.

13. **Bridge Design.**—Two credits; third term; prerequisite, Civil Engineering 11 and 12. The design of and general drawings for a riveted or a pin connected railroad bridge.

14. **Highway Construction.**—Three credits; first term; prerequisite, Civil Engineering 1. The location, construction, and maintenance of country highways and city streets. Text: Blanchard and Drowne's Highway Construction. Seniors and juniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1919.

15. **Concrete and Masonry.**—Three credits; first term; prerequisite, Civil Engineering 7 and 8. A study of the manufacture and use of cement, the proportioning of concrete, and the occurrence of the common building stones; and the study of their proper use in walls, foundations, dams and other engineering structures.

16. **Reinforced Concrete.**—Three credits; second term; prerequisite, Civil Engineering 7, 8 and 15. A study of the theory and design of reinforced concrete structures. Text: Hool's Reinforced Concrete Construction, Vols. 1 and 2.

17. **Water Supply.**—Three credits; first term; prerequisite, Civil Engineering 1 and Chemistry 3. The study of the principles underlying the selection of a pure water supply; and a study of the proper design, construction and operation of municipal water supply systems. Text: Folwell's Water Supply. This subject will be taken by seniors and juniors at the same time, and it will be given in alternate years only. It will be given in 1920.

18. **Sewerage.**—Three credits; second term; prerequisite, Civil

Engineering 4 and 17. The study of the principles involved in the selection, design, construction and operation of an efficient municipal sewage disposal system. Text: Folwell's Sewerage. This subject will be taken by seniors and juniors at the same time, and it will be given in alternate years only. It will be given in 1921.

19. **Railroad Surveying.**—Two credits; third term; prerequisite, Civil Engineering 1, 2, 3, 9. This is a continuation of Civil Engineering 9. Actual field practice in the location of a short line of railroad, from the reconnoissance to the final location, including the spiral easement and vertical curves, the setting of slope stakes, and the making of the necessary maps and profiles. Text: Allen's Railroad Curves and Earthwork. Seniors and juniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1920. Laboratory fee \$1.00.

20. **Higher Structures.**—Two credits; third term; prerequisite, Civil Engineering 6, 7, 8, 10. A study of higher structures, including continuous, draw, cantilever and suspension bridges and metallic arches. The theory and design of masonry dams and arches. Text: Merriman and Jacoby's Roofs and Bridges, Part 4.

21. **Contracts and Specifications.**—Two credits; third term; senior year. Synopsis of the law of contracts as applied to engineering construction; a study of typical contracts and specifications, riparian rights, boundary lines, survey descriptions, etc. Text: Johnson's Engineering Contracts and Specifications.

ENGLISH

Professor Baldwin; Associate Professor Powers; Assistant Professor Young

The following courses are offered:

13-14-15. **Rhetoric.**—Three credits each term; prerequisite, the English of the preparatory department; required of all freshmen. The main purpose of this course is to familiarize the student with the principles of rhetoric and to enable him to use them effectively in composition. To this end written work is demanded constantly, and is carefully criticised both in the class room and in conferences between the instructor and the individual student. The work is supplemented with reading, in the choice of which the student is allowed considerable latitude.

16. **Advanced Composition.**—Three credits; third term; prerequisite, 13-14-15; does not count toward the English requirement. This course is given as an elective for those who wish to do further work in composition. Besides being given as a regular course in (a) advanced composition, it may take a variety of other forms, depend-

ing on the needs and wishes of the majority of the class. It may be given as a course in the writing of (b) farm bulletins, or in the writing of the (c) short story, or as a course in (d) technical composition for engineers.

31-32-33. Survey of American Literature.—Three credits each term; prerequisite, English 13-14-15. Every student must take this course or English 34-35-36 either in his sophomore or in his junior year. The course is open also as an elective for those who have taken English 34-35-36. The method pursued will be similar to that in English 34-35-36.

34-35-36. Survey of English Literature.—Three credits each term; prerequisite, English 13-14-15. Every student must take this course or English 31-32-33, either in his sophomore or in his junior year. This course is open also as an elective for those who have taken English 33-34-35. This is a general course in literature, having as its main aim to show the student the connection between literature and life. A guiding manual will be used but the chief emphasis will be placed upon typical selections from representative authors and upon the student's own powers of observation. Special reports, oral and written, upon assigned topics, will be required of each student, such reports to be delivered before the class as critical audience. There will be written recitations not less often than once every two weeks. Any student who expects to elect further work in English should take this course in the sophomore year.

37-38-39. English Drama Through Shakespeare.—Three credits each term; prerequisite, English 34-35-36 (by permission, 31-32-33); alternates with 40-41-42; given 1919-20; elective. The first term of this course will deal with pre-Shakespearean drama; the second and third terms will center upon Shakespeare, all studied from the point of view of development or evolution. No student should begin this course unless he intends to take the full three terms. Students may enter the course at the beginning of the second term but not at the beginning of the third.

40-41-42. Nineteenth Century Poetry.—Three credits each term; prerequisite, English 34-35-36 (by permission, 31-32-33); alternates with 37-38-39; given 1920-21; elective. The first term will deal with the minor poets, the second with Tennyson, and the third with Browning. Students are advised to take the series but may take any single term of the work.

43-44-45. Modern Literature.—Three credits each term; prerequisite, English 31-32-33 or 34-35-36; elective. The first term will be devoted to the study of the drama, the second to the novel, the third chiefly to the short story and poetry. Any term may be taken separately. See general statement following Course 47.

46. The English Novel.—Three credits; two hours recitation, remainder reading; first term; prerequisite, English 34-35-36 (by per-

mission, 31-32-33); elective. This course deals with the evolution of the English novel to about the end of the nineteenth century. The class will read a novel each week. Students are warned that this course will be principally reading and that the expense for text-books is likely to be higher than for other courses.

47. **The English Essay.**—Three credits; second term; prerequisite, English 34-35-36 (by permission, 31-32-33); elective. This course will be given either as a study of the general development of the English essay as seen in its chief exponents or as a specialized study of the scientific essay, according to the needs and wishes of the class.

Courses 43-44-45 and 46-47-48 form a double interlocking series. Ordinarily, only one of the courses will be given each term, the particular one to be decided by the majority of the class. If, however, there is sufficient demand and the schedule will permit, both courses may be given.

48. **Spencer, Milton, and Pope.**—This course will be organized only upon demand.

MODERN LANGUAGES

Associate Professor Wurster; Associate Professor
Tromanhauser

Merely to acquire a good reading knowledge of a modern language or to study a living language from the standpoint of grammar alone no longer suffices in this day and age, when we are advancing more and more toward internationalism.

Our entrance into world affairs compels us to meet and know our neighbors across the sea. Without a knowledge of their language and customs, an appreciation of these people, their literature, their music, their art is almost impossible. Likewise are business relations most difficult.

The time is not far distant when many Americans will be accepting positions in foreign lands, or positions in this country involving foreign business relations, with its consequent need for some knowledge of a modern language.

This college is meeting the need insofar as in the General Science, Home Economics and Agricultural Courses, French and Spanish are presented.

French

French 1, 2, 3.—First, second and third terms; three credits each

term. Ear training for sounds to prepare for the spoken language. Elements of grammar and composition to assist in an intelligent understanding of the language. Conversation begun.

French 4, 5, 6.—First, second and third terms; three credits each term. Modern French writers are read. The study of grammar is continued by means of composition and conversation. Letter-writing with students of France is begun.

French 7, 8 and 9.—First, second and third terms; three credits each term. Facility and accuracy of translation are sought by a study of classical and modern authors. Advanced French prose composition is studied. Conversation continued.

French 10, 11, 12.—First, second and third terms; three credits each term. Classical and modern authors are read and studied. Lectures are given in French pertaining to the French literature, people and customs.

Spanish

Spanish 1, 2, 3.—Three credits each term. Reading, conversation, composition, drills, supplementary classified vocabulary; imported supplementary readers for collateral work for the stronger students. Text: Espinosa and Allen (or equivalent).

Spanish 4, 5, 6.—Three credits each term. History, geography, customs and general information concerning Spain and the Latin-Americans. Reading, conversation, composition, supplementary classified vocabulary, collateral reading for the aptest students. One main purpose in all the work is to cultivate intelligent sympathy for our Spanish-speaking neighbors. Text: De Vites' Spanish Reader (or equivalent).

Advanced work will be arranged upon request.

HISTORY AND POLITICAL SCIENCE

Professor Harding; Assistant Professor Young

The specific purpose of this department is to introduce the student to such studies as make him better prepared to understand and appreciate the institutions in the midst of which he lives and of which he is a part. The social sciences, in addition to their cultural value, furnish valuable training for citizenship and community leadership. The study of these sciences should encourage breadth of view, historic-mindedness and fairness of judgment. Constant endeavor is made

to teach the practical application of the social, political and economic experiences of the race to the problems of modern life.

Students are encouraged in every way to make use of the college library, which is the tool house of the department.

7. **Modern History.**—Three credits; first term. Political and social history of Europe from 1500 to 1789. A survey of sixteenth century Europe, dynastic and colonial rivalry, European society and governments in the eighteenth century. Text book, readings, papers and reports.

8. **Modern History.**—Three credits; second term. Continuation of History 7. History of Europe from the French Revolution to 1870. French Revolution and Napoleon; era of Metternich; democratic reform and revolution; growth of Nationalism to 1870.

9. **Modern History.**—Three credits; third term. Continuation of History 8. The German Empire; France under the Third Republic; the new imperialism; the British Empire; international relations and the outbreak of the Great War, 1914.

10. **American Government.**—Four credits; first term. A general survey of federal, state and local governments. In this course the work of the government is given fully as much space as its form and structure. Special attention is devoted to government regulation of business, social legislation, executive leadership and judicial decisions interpreting vital and essential public powers. Lectures, text book, reports, discussions.

11. **Political Parties and Party History.**—Four credits; second term. This course is a study of parties in America. The history of political parties, party machinery, the suffrage, party spirit, party morality, party problems, the spoils system, civil service reform, practical politics in legislative bodies, reform of the party system. Lectures, text book, discussions, reports. Should be preceded whenever possible by Course 10.

12. **Comparative Government.**—Four credits; third term. This is an elective course, designed to round out the work in American Government and Political Parties. It deals, not alone with the structure of the governments of modern nations, but more especially with the underlying principles, the motives and the inner spirit of the peoples. Elective for juniors and seniors. Willoughby's "Government of Modern States" will be the text. Additional readings and reports.

13. **Economics.**—Four credits; first term. A standard course in the fundamental principles of economic science. Text book, class discussion, and a limited amount of reference work.

14. **Sociology.**—Four credits; second term. This course is a combination of a study of social theory and of social problems, or

applied sociology. Lectures, text book, discussions and a term paper.

15. Rural Sociology.—Four credits; third term. A general survey of the field of rural sociology including the following topics: the physical setting, means of communication, movements of population, types of communities, rural health, the rural social mind, rural morality, farmers' economic and social organizations, rural education, the religious forces, the village in relation to rural life, and reorganization of rural social forces. Text book, readings, reports. Should be preceded by General Sociology. Text: Vogt's *Introduction to Rural Sociology*.

16. Agricultural Economics.—Four credits; second term. Emergence of the problems of agricultural economics, relation of public consumption to the farmer's production. Land, human effort and capital goods as factors in agricultural production, organization and management of the enterprise, principles of value and price as related to farm products, market methods and problems, rent and value of farm land; land tenure and land policy; interest on farm loans, agricultural credit, agricultural wages and farm labor problems. Nourse *Agricultural Economics* and Carver's *Rural Economics* are basic texts in this course. Prerequisite, Course 13.

17. Marketing and Cooperation.—Three credits; second term. Marketing at country points, various types of wholesale traders; organized exchanges, auctions and public sales, private dealers and the middleman question, methods of direct selling, fundamentals of cooperation, cooperative sales agencies, government market bureaus, state owned terminal markets. Lectures, discussions, text, reports. Weld's *Marketing of Farm Products* and Powell's *Cooperation in Agriculture* are basic texts. Prerequisite, Course 13.

18. American Problems of Reconstruction.—Four credits; first term. This course deals with after-war social, labor, transportation and political problems. Should be preceded by at least one term of college work in the social sciences.

19. American Foreign Policy.—Four credits; first term. A study of the foreign policy of the United States, its origin, the formulation and evolution of the Monroe doctrine, international cooperation, the open-door policy, Anglo-American relations, imperialistic tendencies, the new Pan-Americanism, end of neutrality and isolation, war aims of the U. S., the U. S. in the Peace Conference, the League of Nations, after-war tendencies of American foreign policy. Prerequisites as for Course 18. (Not given in 1919-20. Given in 1920-21.)

20. Industrial History of the United States.—Three credits; second term. This course deals with the economic aspects of American history until 1860; the land and its resources; colonial agriculture, industries, systems of labor and means of communication; economic aspects of the Revolution; struggle for commercial and economic independence; agriculture during the period of national development; in-

roduction of manufactures; the tariff, banking and currency; domestication of the factory system; the economic aspects of the westward movement and public land policy; shipping and inland commerce to 1860; period of transformation in agriculture since 1840; relation of agriculture to other industries, to politics and to legislation; reactions of economic development in general upon politics and social life.

21. **Industrial History of the United States.**—Three credits; third term. This course traces American economic development from 1860 to the present time. Economic causes and problems of the civil war; the period of western expansion in agriculture; agrarian discontent; production and export of raw materials; development of transportation and internal commerce; currency and banking problems; revival of protective tariffs; material prosperity; railroad combinations; business monopolies; labor problems; immigration problems; later commercial expansion; the conservation movement; reorganization of agriculture since 1890; industry and agriculture as affected by the great war; bearing of later American development upon politics and social life.

VOCATIONAL EDUCATION

Professor Brady; Associate Professor Cline; Assistant
Professor Wiseman

During the last few years the demand for professionally trained teachers of agriculture, principals and superintendents of agricultural and industrial high schools, teachers of home economics (domestic science and art), related science and industrial positions in general has far exceeded the supply. In February, 1917, Congress, realizing the ever increasing demands for technically trained men and women, passed the Smith-Hughes vocational law which provides certain appropriations and standards for teacher training in the technical subjects.

Students wishing to receive the Bachelor of Science degree in any of the vocational teacher training courses under the Smith-Hughes law and the accompanying vocational teaching certificate in agriculture or home economics can do so by completing the respective four-year course for graduation as outlined in the schemes of study for Teacher Training. (See schemes of study.)

Those desirous of obtaining the regular state certificate

for South Dakota should elect the equivalent of fifteen semester hours work in the department of education (not omitting educational psychology, principles of teaching, history of education, observation and practice teaching).

The courses in Education are planned to give a clear grasp of the organization and administration of Public Education, with special emphasis on the present vocational theory and vocational practice in educational procedure.

The purpose is to make all courses concrete and practical.

1. **Educational Psychology.**—Four credits; first term. A systematic course treating of the fundamental laws of learning in animals and man, the effect of practice, the rate and limits of improvement, conditions for the most economical learning, measurements of progress in school subjects, mental hygiene, fatigue, transfer of improvement, etc. Lectures, recitations, required reading, experimentation.

2. **Principles of Vocational Teaching.**—Four credits; third term. An application of the principles of psychology to the technique of vocational instruction; observations of the application of these principles in the practice school; discussions of various types of lessons; criticism of stenographic reports of recitations, motivation and project teaching; planning lesson syllabi; examinations, equipment, etc. Lectures, readings, observation, report.

3. **Vocational Agricultural Education.**—Three credits; second term. Organization and administration, equipment, courses of study, qualifications of supervisors, directors, teachers, plans for training of agricultural teachers under Smith-Hughes requirements, types of agricultural schools, special classes, federal and state board requirements, etc., etc. Lectures, required readings, discussions, special reports, observation.

4. **Vocational Educational History.**—Two credits; second term. A consistent survey of such periods in the history of educational progress as will serve in the interpretation and solution of our present vocational problems. The rise of specialization in educational demands, evolution of modern vocational high schools and vocational departments, guild systems, apprenticeship labor, state and federal control, public systems of education, rise of education of women, advance in training of vocational teachers, foundations for the present scientific, psychological and sociological tendencies in education; the effects of the disciplinary and humanistic conceptions of education upon vocational progress—contributions to education by Pestalozzi, Froebel, Milton, Spencer, Dewey, Bacon, Washington, Jefferson, Horace Mann, etc.

5. **School Administration.**—Four credits; second term. Organ-

ization and Administration of Public School Systems in the United States. Measurement as a modern scientific instrument of supervision and administration. A brief introduction to statistical method, frequency tables, the application of scientific forms to the measurement of school achievement; fundamental bases for organizing school children, retardation, acceleration and elimination; grading and promotion; special classes; home work; medical inspection; extension of the school activities; special modifications of the course of study; discipline; compulsory education; responsibility of the schools to the public; comparative systems of education both local and foreign; Lectures, discussions, assigned readings, reports.

6. Special Methods in Teaching Vocational Agriculture.—Five credits; first term. This course will deal particularly with teaching vocational Agriculture in Smith-Hughes High Schools. Attention to Aims; Course of Study; Selection of subject matter and its sequence; Study of work and methods in field, laboratory and classroom; Special suggestions for special branches of study and to Home Project work; Proper relation to non-vocational work and to other agencies. Laboratory work consists of Observations in Smith-Hughes schools; Demonstrations; Chart making; Mounting illustrative material; Use and construction of laboratory equipment; Project work; Study and cataloging of texts, references and bulletins, as these pertain to the organization of Smith-Hughes Agricultural High Schools. Lectures, required readings, discussions, reports, laboratory work.

7. Theory and Practice Teaching in Home Economics.—Three credits; three recitations per week; first term; prerequisites, Psychology, History of Education and Principles of Teaching. Discussions and problems in this class cover the standards and methods of Home Economics Education in various types of schools; courses of study, lesson plans, observation reports, special readings and demonstrations before the class are planned and worked out. A study is made of school organization and management in relation to Home Economics teaching. Text and reference works required.

8. Theory and Practice Teaching in Home Economics.—Three recitations per week; second term. Course 20 continued.

9. Practice Teaching in Home Economics.—Any one term; three recitations per week, hours to be arranged. Required of students taking Teachers' Training Course in Home Economics. This course runs parallel to Courses 20 and 21. Students are given the responsibility of taking part or full charge of classes in sewing and cooking in the public schools and in the school of agriculture.

10. Practice Teaching in Vocational Agriculture.—Five credits. Open to seniors who have had twelve hours or equivalent in Education. Daily lesson plans carefully inspected and followed by teaching. Daily practice and observation in the classroom with full charge of the class under supervision. Practice teaching in Agriculture is car-

ried on in the secondary School of Agriculture at the state college and in the Vocational Agricultural Department of the City of Brookings High School. This school is a bonafide Smith-Hughes school. The teaching work is supervised by heads of the respective departments, by the principal of the respective school and by the Department of Vocational Education.

11. Vocational Educational Sociology.—Four credits; third term. Problems of vocational guidance and vocational placement, tests for vocational selection, demonstrations and applications of tests, modern social demands for vocational reorganization of administration, methods of instruction, courses of study, equipment, teacher training, etc. Public sentiment as a weapon of social control, industrial hygiene, vocational ethics, vocational social classes. The course will include several concrete studies of vocational surveys. Lectures, discussions, problems, survey practice and assigned readings.

12. Rural Education.—Four credits; third term. a. Rural life conditions; b. Need for rural life reorganization; c. Fundamental principles involved; d. Noteworthy examples of new types of rural school organization, new curricula, the new teacher, buildings, equipment, etc. Lectures, readings, reports, observations.

13. Vocational Secondary Education.—Four credits; first term. Essential facts of adolescence; facts, causes and remedies of retardation and elimination; types and definitions of vocational schools; vocational legislation; certification of vocational teachers; correlation of technical courses with related science courses; nature of follow-up work; special classes; measuring vocational products, etc., etc. Lectures, discussions, assigned readings.

AGRICULTURAL JOURNALISM AND ADVERTISING

Professor Starring

The following introductory courses in journalism and advertising are designed to assist prospective rural leaders in writing entertainingly and helpfully upon subjects in which they are interested, and to help in the editing of student publications. News values, fact values and proper emphasis on them are matters of prime importance. The need of training in agricultural advertising is also apparent to prospective farmers who intend to receive the greatest cash return from their efforts. The course in agricultural publicity will be especially helpful also to those who become public servants as teachers, county agents or specialists, for they will be ex-

pected not only to prepare many articles for publication, but also to assist others with advertising and sales problems.

1. **News Writing.**—Two credits; first term. For junior and senior men and women. The news style of writing; methods of getting the news; structure of various types of news stories; news values; practice in writing for college and other publications. Two hours of extra credit will be given to the editors in chief of the *Industrial Collegian* and the *Jack Rabbit* in addition to the class credit. Associate and assistant editors of student publications may receive one hour extra credit for outside work well performed. Student editors who enroll for this course may therefore receive a total of three and four term credits. Each editor will be required to present his "string" of news stories at stated periods.

2. **Agricultural Publicity Methods.**—Two credits; second term. For juniors and seniors majoring in agriculture and home economics. Methods of gathering and writing agricultural news for farm journals, women magazines and newspapers; editing farm bureau publications; the preparation of agricultural bulletins; editing college farm and home news service and plate matter; principles of advertising as applied to farm and home products; planning and arranging sale catalogs; composition of effective sales correspondence; advertising farm meetings, county fairs, etc. Offered to a class of eight or more.

MATHEMATICS

Professor Brown; Assistant Professor Mills; Assistant
Professor Lattin; Miss McCordic

The general work of this department is planned to cultivate habits of systematic and accurate thinking, as well as facility in making calculations. Independent effort is encouraged to the greatest possible extent, the solutions of problems and original demonstration forming an important part of each course.

14. **Plane Trigonometry.**—Three credits; second term; prerequisite, one year of plane geometry and three semesters of high school algebra. The trigonometric functions, solutions of plane triangles. This course is intended for agricultural and general science students and is a preparation for the study of college physics and other subjects which require a knowledge of the elementary trigonometry.

16. **College Algebra.**—Five credits; first term; prerequisite,

three semesters of elementary algebra. Elementary topics, functions and their graphs, review of the quadratic equation, complex numbers, theory of equations, permutations and combinations, partial fractions, logarithms and determinants.

17. **Plane Trigonometry.**—Five credits; second term; prerequisite, one year of plane geometry and one and one half years of high school algebra. The functions of acute angles, right triangles, goniometry, oblique triangles, solutions of problems.

18. **Analytic Geometry.**—Five credits; first term; prerequisite, Mathematics 16 and 17. Coordinate systems, projections, loci, the straight line, conics, the general equation of the second degree.

19. **Calculus.**—Five credits; second term; prerequisite, Mathematics 18. Differential calculus, with application to engineering problems, integration of standard forms, definite integrals, rational fractions, integration by parts.

20. **Calculus.**—Five credits; third term; prerequisite, Mathematics 19. The applications of calculus to problems involving areas, lines, surfaces, and volumes; successive and partial integration, centers of gravity and moments.

21. **Calculus and Analytic Mechanics.**—First term; three credits; prerequisite, Mathematics 20, of which it is a continuation.

22. **General Astronomy.**—Three credits; third term; prerequisite, Elementary Mathematics. A text will be used and frequent use will be made of the instruments.

23. **Solid Analytic Geometry.**—Three credits; second term; prerequisite, Mathematics 18. This will be a continuation of Mathematics 18 and will be offered primarily for students who are interested in engineering problems.

24. **Differential Equations.**—Elective; four credits. This subject will be offered for the benefit of engineering students or students who may wish to specialize in mechanics or physics, provided a sufficient number desire the course. Prerequisite, Mathematics 20.

25. **Method of Least Squares.**—Elective; three credits. A study of the law of error based on the theory of probability. Prerequisite, Mathematics 20.

26. **Elementary Mathematics.**—Three credits; third term; prerequisite, Mathematics 16 and 14 or 17. The solution of mechanical problems by means of the elementary mathematics.

Note.—A course in Solid Geometry will be offered for the benefit of engineering students who have not had this subject before entering college.

PHYSICS

Professor Mathews; Associate Professor Hoy

From the fact that physics is one of the foundation sciences and that a knowledge of its laws is necessary to every student seeking a scientific training, the department has been well fitted with rooms and appliances to provide this training. Its lecture rooms are well provided with arm-rest opera chairs. The laboratories are well lighted and provided with non-vibratory piers. Water, gas and electricity are furnished for the recitation rooms and the dark room and laboratories.

This department is housed in the engineering and physics building. Its facilities and equipment for instruction are equal to those of any in the Northwest.

The laboratory equipment includes such expensive pieces as analytical balances, laboratory clock making electrical contact every second, cathetometer, spectroscopes, microscopes, photometers, stereopticon (arc light), standard cells, dynamos, electrometers, transformers, galvanometers, storage batteries, induction coils, ammeters, magnetometers, voltmeters, wattmeters, Wheatstone bridges, polariscope, quadrant electrometer, Kelvin's current balances, lathe and wireless telegraphy and X-ray apparatus.

The following subjects are offered in this department:

For Physics 1, 2 and 3 see the preparatory department.

4. **General Physics.**—Four credits; first term; three recitations and one laboratory period per week. Young ladies following the General Science Course may elect Home Economics instead of Physics 4. Prerequisite, Physics 3 and Mathematics 14. Mechanics of solids, fluids; heat. Exact measurements of mass, distance, time, calorimetry. Laboratory fee \$2.00.

5. **General Physics.**—Four credits; second term; three recitations and one laboratory period per week. Electricity and its applications in the dynamo, motor and transformer, electric light and study of electrical and magnetic fields. Laboratory work on topics mentioned. Laboratory fee \$2.00.

6. **General Physics.**—Four credits; third term; three recitations and one laboratory period per week. Nature and velocity of sound, scales, overtones, instruments; refraction, reflection, interference and velocity of light, optical instruments, color, etc. Laboratory work on topics mentioned. Laboratory fee \$2.00.

7. **Advanced Physics.**—Five credits; first term. Mechanics, kinematics, kinetics, mechanics of fluids and heat and its application; magnetism, static electricity, electrolysis. Laboratory work and measurements covering topics mentioned. Laboratory fee \$2.00.

8. **Heat.**—Five credits; second term. Sensible and latent heat, dynamical generation of heat, thermometry, calorimetry, specific heat, atomic and molecular heat capacities, evaporation, ebullition, vapor densities, cooling, diathermacy, conductivity, and dynamical equivalent of heat. Laboratory work covering topics mentioned. Laboratory fee \$2.00.

9. **Light.**—Five credits; third term. Shadows and images, spectrum, velocity of light, color, phosphorescence, fluorescence, diffraction, measuring waves, prisms and polarization; laboratory work. Laboratory fee \$2.00.

10. **Household Physics.**—Four credits; first term; three recitations and one laboratory period per week. Especial emphasis is laid on practical applications of heat, machines, electricity, etc., in the home.

11-12-13. **Practical Physics.**—Three credits; first and second and third terms; three recitations and one laboratory period per week. This course is open to students in the agricultural groups. The general subjects discussed in physics will be considered, but special emphasis will be placed upon topics of practical interest and upon practical application of physical principles. Laboratory fee \$2.00 per term.

DEPARTMENT OF BOTANY AND PLANT DISEASES

Professor Michel

In the work of this department, the structure, physiology, classification and pathology of plants, and the fundamental problems of cell structure and function are studied, as well as the direct application of botanical science to agriculture. This work also helps to serve as a foundation for courses in forestry, plant breeding, plant diseases, etc.

The instruction aims primarily to develop the powers of accurate observation and the ability to draw correct conclusions.

Both the elementary and advanced laboratories are well equipped with microscopes and other necessary apparatus for carrying on advanced or original research work. The department also has fairly complete, convenient herbaria of the

flowering plants and fungous flora of the northern United States.

1-2. **Agricultural Botany.**—Three credits each. Two lectures or recitations per week each requiring one and one-half hours of preparation and two double periods of laboratory per week, required in the first and second terms of the freshman year of the Agricultural Course, elective in the sophomore, junior or senior year of various other courses. The general principles of biology as illustrated by plants; a study of the life histories of types of plants, including their physiology and systematic relations. Laboratory fee \$2.00 per term.

3-4. **General Botany.**—Three credits each. Two lectures or recitations each requiring one and one-half hours of preparation, and two double periods of laboratory work per week. The work will be given during the second and third terms and is required of students in household economics for the sophomore year. Laboratory fee \$2.00 per term.

5. **Plant Physiology.**—Two recitations and three laboratory periods a week, second and third terms; required in the junior year of the horticulture and plant disease group, Agricultural Course; elective in junior and senior year; prerequisite, Botany 2 and 3. The course deals with the most important life processes of the plant, including the properties of living matter; the general physiology of metabolism, growth, reproduction and irritability; the imitation and control of life processes. Laboratory fee \$3.00 per term.

6-7. **Plant Diseases.**—Three credits each of second and third terms. Two recitations each requiring one and one-half hours of preparation and two double periods of laboratory work per week; prerequisite, Botany 2 or 4. The first part of the term is devoted to the cause, nature and classification of the fungi, special emphasis being placed on the organisms of economic importance; the latter part of the course is devoted to the morphology of the diseases and their control, especially those found in South Dakota. In the laboratory work the student is, as far as possible, brought into direct contact with the diseases as found in the field. Laboratory fee \$2.00 per term.

8. **Taxonomy.**—Five recitations and laboratory periods a week first and second terms; prerequisite, Botany 1. The systematic arrangements and classification of the ferns and their allies, and especially of the higher flowering plants. The structure and relationship of weeds, grasses and grains, and other plants of economic importance will be emphasized in the course.

9. **Weeds.**—One recitation and two laboratory periods a week, first term; prerequisite, Botany 1. The aim will be to acquaint students with our more common weeds. Numerous field trips will be made in the early fall.

10. **Plant Histology.**—Four recitations and laboratory periods a week, second term; prerequisite, Botany 1. The work will consist in the embedding, sectioning and staining of tissues from the various groups of plants. Text-book: Chamberlain's Methods in Plant Histology.

11. **Heredity in Relation to Agriculture.**—Four recitations a week, third term. The work is offered in connection with the Department of Horticulture, which will give practical work along the line of plant breeding. This course deals with the principles of variation and heredity, and their bearing upon the theory of organic evolution. The first part of the work will be devoted to the general principles of heredity and their application to man, the latter half will deal with plant breeding and its practice in this state. This course is open to all students who have had one year of biology.

ZOOLOGY AND RURAL HYGIENE

Professor Miller; Miss Stoddart

Students of Agriculture, Domestic and General Science must have a fundamental knowledge of animal structure, physiology and the principles of growth and development. It is equally true that such classes of students should have a fundamental knowledge of the principles of Bacteriology and Sanitation. It is the aim of the department to give this knowledge. Besides this the department offers training to those who wish to specialize. For such students excellent training is offered in methods of research and technique.

Students who contemplate the study of Veterinary or Human Medicine will find it much to their advantage to elect advanced work in the department. For some of the pure medical sciences full credit is usually given and the student is privileged to elect more advanced work in the professional school.

The department is equipped to offer biological work as it should be given. A large number of microscopes, microtomes, ovens, sterilizers, incubators, a projecting apparatus for microscopical and lantern slides, glassware, reagents, type specimens in formaldehyde, skeletons, excellent models, and a well chosen library of some five hundred volumes, besides files of a number of the biological magazines, equip the

department with apparatus and literature for thorough scientific work.

3. **General Zoology.**—Four credits; first term. Two three-hour laboratory periods and two one-hour lecture or quiz periods. The course includes a survey of the type forms in the animal kingdom, and some of the fundamental biological principles. Laboratory fee \$2.00.

4. **General Zoology.**—Four credits; second term. A continuation of Course 3. The work will be with the vertebrates and will include the principles of vertebrate physiology. Laboratory fee \$2.00.

5-6. **Pharmacy Physiology.**—Four credits first term, three second term. Four laboratory periods a week for the first term and three for the second. The anatomy of the mammal, with comparisons with the human together with human physiology. Cat is used for dissection, excellent anatomical models are used for comparison. Text to be announced. Laboratory fee \$2.00 per term.

7-8. **Vertebrate Histology.**—Four credits each of first and second terms. Four three-hour laboratories a week; for two terms. A course in microtechnical methods, which includes the preparation of a large number of microscopical slides of the vertebrate tissues. The latter part of course will include a study of organology from the preparations made by the student. This course is of value for those who are expecting to teach science in the high schools and those expecting to enter medical college. Laboratory fee \$2.00 per term.

9. **Vertebrate Embryology.**—Three credits; third term. Two three-hour laboratories and one lecture a week. The study of the principles of development, including cleavage, formation of germ layers, and differentiation of the organs of the vertebrate body. Chick and pig embryos are used for study. Text: Prentiss and Avereys. Laboratory fee \$2.00.

10. **Bacteriology.**—Four Credits; third term. Two three-hour laboratories and two recitations a week. A course in general bacteriology, including the preparation of media, the technique of making cultures, and a study of the principles of bacteriology. Special reference is made to the public health side of the subject. Text: Jordan. Laboratory fee \$3.00.

ENTOMOLOGY

Professor Severin; Mr. Gilbertson

The work of this department is conducted by means of lectures, recitations, laboratory and field work. The student is thus afforded not only an opportunity to gain familiarity

with the principles and theories discussed in the class room, but is also encouraged to put these theories to the test and verify the principles in the field. In the way of illustrative material, in addition to the general entomological museum and the entomological collections, the department is provided with a large number of lantern slides, microscopic slides, life histories of injurious insects, alcoholic and formalin preparations, as well as a complete line of insecticides and fungicides, spray machinery and accessories, and other apparatus used in combating insects. The department is well provided with all the apparatus necessary for carrying on entomological work.

1-2. Agricultural Entomology.—Three credits first term, three credits second term. One class and two laboratory periods per week per term. A general course, dealing with the anatomy, physiology, embryology, behavior, classification, life history and economic importance of injurious insects. This course is designed as an introduction to the practical work in economic entomology offered in Course 3 and 4 and to the systematic work offered in 5 and 6. Laboratory fee \$1.50 per term.

3-4. Economic Entomology.—Three credits first term, three credits second term. One class and two laboratory periods per week per term. Prerequisite, Entomology 1 and 2. A detailed study in the field and lecture room of the chief economic insects with a study of insecticides, spraying machinery and other apparatus used in combating insects. The student will be given an opportunity of preparing sprays and gases used in combating insect pests, and demonstrations will be offered in the practical application of the insecticides. Each student will be required to work out the life history of three species of insects that are of economic importance, to mount these in exhibit cases and to write up an account of the work done. Laboratory fee \$1.00 per term.

5 and 6. Systematic Entomology.—Two or more credits first, second or third term. This course, while primarily entomological, is designed to be of general use to students of biology. The aim of this course is to give the student a good idea of the aims and methods of insect classification. Each student will be required to do his own collecting and mounting of insects, altho the collections of the department will be available to the student at all time for reference work.

7. Household Pests.—Three credits; third term. Two recitations and one laboratory period per week. Household insects and other animals that are of economic importance together with methods for their extermination will be especially emphasized in this course.

8. Veterinary and Sanitary Entomology.—Three credits, third

term. Two recitations and one laboratory period per week. This course deals chiefly with the injurious insects affecting domestic animals and man. A discussion of the diseases transmitted thru these insects takes up a considerable share of the time.

9. **Animal Behaviour.**—Three credits, third term. Three recitations per week. The evolution of animal behaviour forms the principal theme of this course and is of much significance for the study and correct understanding of human psychology and sociology. This course will be useful for those engaged in educational work.

10. **Beekeeping.**—Three credits, third term. Two recitations and one laboratory period per week. Especial emphasis will be placed upon the practical side of beekeeping in this course. The laboratory work will deal with a study of apiary methods, including the manipulation of bees, spring management, swarm control and increase, production of extracted and comb honey, care of bees in winter, apiary apparatus and the anatomy, physiology and development of bees.

DEPARTMENT OF CHEMISTRY

Professor Dunbar; Assistant Professor Binnewies; Mr. Taylor; Mr. Sherwood; Mr. White

It is the aim of the department to give the student a general training, so far as our required courses are concerned, in the elementary principles of the science, especially as applicable to the problems he may be expected to meet in relation to the work of an instructor of agricultural subjects, and to the work of his more advanced courses in other lines of study. We also design our courses with a view to technical and analytical preparation for students who purpose to enter commercial and experimental careers along chemical lines. With such aims in view, the department stresses the practical, rather than the theoretical application of chemistry, altho such degree of importance is attached to the latter phase of the study as to make the work adaptable to higher investigational courses, should the student incline toward such further study of chemistry. Our advanced and elective courses are designed especially for training for those who purpose to study pharmacy, medicine and food problems, and for those who are looking toward technical positions in manufacturing plants or in experiment station work.

The following is a brief description of courses offered:

1. **Inorganic Chemistry.**—Required in all college courses. History of chemistry. General chemical laws. Study of non-metallic elements, with laboratory exercises in illustration. The qualitative tests are given much stress. Text: Shepard's Elementary Chemistry, with lectures. Three double periods per week, each requiring one hour of preparation. Three college credit hours. Fall term. Laboratory fee \$3.00. Deposit \$2.00.

2. **Inorganic Chemistry.**—Required in all college courses. Continuation of 1. Study of metallic elements. Three double periods per week, each requiring one hour of preparation. Three college credit hours. Winter term. Laboratory fee \$3.00. Deposit \$2.00.

3. **Inorganic Chemistry and Qualitative Analysis.**—Required in all college courses. Continuation of 2. During the term, unknown mixtures of a majority of the common elements are analyzed, and full reports of results are required to be written. Three double periods per week, each requiring one hour of outside preparation. Three college credit hours. Spring term. Laboratory fee \$4.00. Deposit \$2.00.

4. **Elementary Organic Chemistry.**—Prerequisites, Chemistry 1, 2, 3. Required of sophomores in Agricultural, Domestic Science and Pharmacy courses. A general course covering the essentials of the subject, particular stress being attached to such types as will be met by students of pharmacy, agriculture and domestic science. The laboratory work of the course is largely qualitative. Text: Norris' Organic Chemistry. Five double periods per week, each requiring one hour of preparation. Five college credit hours. Fall term. Laboratory fee \$5.00. Deposit \$2.00.

5. **Quantitative Analysis.**—Required of students of Agriculture and of Pharmacy. In sophomore year. This course is devoted mainly to gravimetric manipulation, a few volumetric principles being illustrated near the end of the course. Prerequisite, Chemistry 1, 2, 3. Nine laboratory periods per week, one of them being given over to explanation of principles involved and methods of manipulation. Three college credit hours. Winter term. Laboratory fee \$3.50. Deposit \$2.00.

6. **Quantitative Analysis.**—Elective. Volumetric analysis. Prerequisite, Chemistry 1, 2, 3, 5. Nine laboratory periods per week. Three college credit hours. Spring term. Laboratory fee \$2.00. Deposit \$2.00.

7. **Household Chemistry.**—Required from students in Domestic Science, sophomore year. Study of chemical problems related to the subjects of fuel, cleansing agents, disinfectants, stains, dyes, preservatives, and, in a general way, the simple food constituents and their adulterants. Prerequisite, Chemistry 1, 2, 3, 4. Text: Snell's Household Chemistry, with lectures. Three double periods per week, each

requiring one hour of preparation. Three college credit hours. Winter term. Laboratory fee \$2.00. Deposit \$2.00.

8. **Chemistry of Foods and Nutrition.**—Required of all students of Domestic Science, sophomore year. Prerequisite, Chemistry 1, 2, 3, 4. Food nutrients, chemical characteristics and physiological functions of same, metabolism, dietaries, balance rations, experiments in digestive processes, detection of adulterants, coloring matter, and preservatives. Three double periods per week, each requiring two hours of preparation. Lectures, requiring no text. Four college credit hours. Spring term. Laboratory fee \$3.50. Deposit \$2.00.

9. **Advanced Organic Chemistry.**—Elective. Prerequisite, Chemistry 1, 2, 3, 4. A more searching study of the aliphatic types, with laboratory work devoted to characteristic preparations involving the best known synthetic processes. Text: Norris, with additional outlines. Three recitation periods per week, each requiring two hours of preparation, and six laboratory periods per week. Five college credit hours. Fall term. Laboratory fee \$5.00. Deposit \$2.00.

10. **Advanced Organic Chemistry.**—Elective. Continuation of 9, and devoted to study of aromatic types. Prerequisites, Chemistry 1, 2, 3, 4, 9. Three recitation periods per week, each requiring two hours of preparation. Six laboratory periods. Five college credit hours. Winter term. Laboratory fee \$5.00. Deposit \$2.00.

11. **Advanced Organic Chemistry.**—Elective. Continuation of 10. Study of aromatic types, with special reference to dyes. Prerequisites as for Course 10. Two recitation periods per week, each requiring two hours of preparation, and six laboratory periods per week. Four college credit hours. Spring term. Laboratory fee \$5.00. Deposit \$2.00.

12. **Agricultural Analysis.**—Elective in junior year. Prerequisite, Chemistry 1, 2, 3, 4, 5. Analytical methods applicable to study of cereals, insecticides, fungicides, dairy products, fertilizers, and quantitative estimation of adulterants. Nine laboratory periods per week. Three college credit hours. Fall term. Laboratory fee \$3.50. Deposit \$2.00.

13. **Water Analysis.** Elective in junior year. Prerequisites, Chemistry 1, 2, 3, 4, 5. Should be accompanied or followed by a course in bacteriological water analysis. Nine laboratory periods per week. Three college credit hours. Winter term. Laboratory fee \$4.00. Deposit \$2.00.

14. **Agricultural Chemistry.** Elective in junior or senior years. Prerequisites, Chemistry 1, 2, 3, 4. A study of the application of chemistry to agricultural problems especially. Text: Chamberlain's *Agricultural Chemistry*, lectures and reference reading. Three lecture periods per week, each requiring two hours of preparation. Three college credit hours. Spring term.

15. **Inorganic Technology.**—Prerequisite, Chemistry 1, 2, 3. Elective in junior or senior year. A study of inorganic technical and commercial processes. Three lecture periods per week, each requiring two hours of preparation. Three college credit hours. Fall term, odd-numbered years.

16. **Elementary Physical Chemistry.**—Elective in junior or senior year. Prerequisite, Chemistry 1, 2, 3, 5, 6 and General Physics. Text Findlay. Includes molecular weight determinations, conductivity and dissociation experimentations, chemical equilibrium, polarimetry, use of spectroscope, refractometer, etc. Three lecture periods per week, each requiring two hours of preparation, and six laboratory periods per week. Five college hours. Winter term, odd-numbered years. Laboratory fee \$5.00. Deposit \$2.00.

17. **Organic Technology.**—Elective in senior or junior year. Prerequisite, Chemistry 1, 2, 3, 4. A study of commercial and technical methods of preparation of organic materials. Text: Sadtler's Industrial Organic Chemistry, lectures and reading. Three lecture periods per week, each requiring two hours of preparation. Three college credit hours. Spring term, odd-numbered years.

18. **Physiological Chemistry.**—Elective in junior or senior year. Prerequisite, Chemistry 1, 2, 3, 4. Text: Hawk. Designed to meet requirements of students in medicine and pharmacy, as well as those who purpose advanced work in nutrition. Includes lecture and laboratory work in study of nutritional functioning, ferment action, digestive processes, and metabolism. Three recitation periods per week, each requiring two hours of preparation, and six laboratory hours per week. Designed to accompany or closely relate itself to an advanced course in Physiology, both plant and animal. Five college credit hours. Fall term, even-numbered years. Laboratory fee \$5.00. Deposit \$2.00.

19. **Technical Analysis.**—Elective in junior or senior year. Prerequisite, Chemistry 1, 2, 3, 4, 5, 6. This course presumes such degree of acquaintance with quantitative and qualitative manipulation as shall qualify the student to take up technical methods of examination of paints, varnishes, lubricants, and like industrial products. Twelve hours of laboratory work per week. Four college credit hours. Winter term, even-numbered years. Laboratory fee \$5.00. Deposit \$2.00.

20. **Qualitative Inorganic Analysis, Advanced.**—Elective in junior or senior year. Prerequisites, Chemistry 1, 2, 3, 16. A course involving not only more difficult problems of qualitative analysis, as in case of refractory metals and their ores, but placing stress upon modern theories of mass action, ionic systems, etc. Text: Stieglitz' Qualitative Analysis. Two recitation or lecture periods per week, requiring two hours of preparation, each, and six laboratory periods

per week. Four college credit hours. Spring term, even-numbered years. Laboratory fee \$2.00. Deposit \$2.00.

21. **Chemical Problems.**—Prerequisite, Chemistry 1, 2. Elective. A course involving study of the more common calculations encountered in quantitative and pharmacy work. Text: Baskerville and Estabrook. Two recitation periods per week, each requiring two hours of preparation. Two college credit hours. Spring term.

22. **Elementary Inorganic Chemistry.**—For School of Agriculture students only. This course may be substituted for Chemistry 1, should the student desire to do so. Text: Snyder. Two recitation and four laboratory periods per week, thruout the term of five months. Laboratory fee \$2.50. Deposit \$2.00.

23. **Thesis.**—Required of all students majoring in Chemistry. Topics to be assigned. Five college credit hours. Spring term.

Note.—Students majoring in Chemistry are advised to arrange their General Science course of study so as to include the following Chemistry courses: 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 15, 16, 19, 21 and 23. They should also include courses in Elementary Bacteriology, General Physics, Calculus, and Bacteriological Water Analysis.

PHARMACY

Professor Serles; Mr. Hogstad

Purpose

The purpose of this department is to train young men and women in the science of pharmacy. The passage of the Food and Drug Act by Congress, and similar legislation by our own state has placed very great importance on pharmaceutical education. Under the present commercial conditions it is nearly impossible for one to prepare himself to meet the requirements of these laws except by taking a thorough college course.

The demand for educated pharmacists is becoming greater every day. In fact, even at present, some of the states will not allow one to take the examination for registration unless he is a graduate of a reputable school. This department meets both the preparatory and professional requirements of the New York Educational Department with which it is registered in full. It is also a member of the American Conference of Pharmaceutical Faculties.

Graduates from the Department of Pharmacy in the State College have been uniformly successful in passing the State Board examinations, only three having failed to meet the requirements of the Board during the past nineteen years.

Among the regulations of the South Dakota State Board of Pharmacy is the following:

"Hereafter and during the year 1906, all applicants appearing for registration by examination, must present with their application an affidavit showing that they have completed a course of study (or its equivalent) of one year high school work. In 1907, two years; in 1908, three years, and in 1909 the presentation of a high school diploma will be required. These requirements were recommended by the Association in annual meeting at Canton in 1903. It is therefor expedient that all proprietors doing a drug business in this state acquaint their clerks and apprentices with the above rule."

Further recommendations were made by the State Board at a meeting held in Sioux Falls, in January, 1918, which are in substance: "That it shall be deemed expedient for all applicants appearing before the State Board for registration to have had two years of practical experience in a drug store where prescriptions are regularly compounded, together with a Ph. G. from a reputable school of pharmacy, or one year of experience and a Ph. C. degree, before said applicant should appear for examination."

In order to harmonize our work with this regulation we require the completion of four years of high school work or its equivalent. While this is a much higher requirement than most schools demand, the results have justified our judgment, for at present there are but three of our graduates who have taken the state examination who are not registered.

This line of work offers many inducements to young men. The requests of the druggists of the state for our graduates are far in excess of the supply and the pure food and drug laws have opened up a new field for young men who are competent drug and food assayists.

Beginning with the school year September, 1918, the "South Dakota School of Pharmacy" will offer a three-years course in pharmacy leading to the degree of Pharmaceutical

Chemist (Ph. C.). This course has been especially outlined to meet the ever increasing demands for more widely trained men not only in the "Art of Compounding," but in the analysis and synthesis of pharmaceuticals as well as to give the student proper foundations for research problems.

The students finishing the two years course in Pharmacy may receive the degree of Pharmacy Graduate (Ph. G.). These are the only courses of their kind offered in the state and receive the hearty commendation of the State Board of Pharmacy. All the work of both courses may be applied towards the degree of Bachelor of Science. For the additional subjects required, see Pharmacy Schedule. This longer course is recommended to those who intend to take up the study of chemistry, medicine or dentistry, or who wish to prepare for teaching the sciences in the high schools of the state.

Medicinal Plant Garden

During the past two years a medicinal plant garden has been developed in order to acquaint the students with the principles of medicinal plant cultivation and the nature and characteristics of a large number of drug plants. The student has the opportunity of noting the various steps employed in the cultivation, the collection, drying and preservation of a large number of drugs. Specially designed ovens are employed for the rapid drying of various drugs. The dried, preserved materials are then used in connection with the work in Pharmaceutical Botany, Pharmacognosy and Practical Pharmacy and Drug Analysis.

Below is given a description of the subjects that are required in the two and the three-year courses:

1. **Pharmaceutical Latin.**—Two credits; first term; first year. The subject is taught with special reference to its application to titles and prescription practice. Text: Muldoon's Pharmaceutical Latin.

2. **Pharmaceutical Latin.**—Two credits; second term; first year. Continuation of Course 1.

3. **Materia Medica.**—Five credits; first term; second year; pre-requisite, Pharmacy 7 and 8. This study embraces a consideration of the medicinal properties, dosage and the description of the official, and the important non-official medicines. Special emphasis is placed

on the nature, effect, and treatment of poisons. Text: Wilcox's *Materia Medica and Therapeutics*.

4.—**Materia Medica.**—Five credits; second term; second year. Continuation of Course 3.

5. **Materia Medica.**—Five credits; third term; second year. Continuation of Course 4.

6. **Pharmaceutical Botany.**—Four credits; first term; first year. Designed to acquaint the student with the characteristics of the principal groups of plants, emphasis being placed on their economic value. The course also includes examination of the cell and cell contents, the plant structure and microscopical technique. A detailed study of many of the important crude drugs and drug plants with respect to the botanical and pharmacognostical characteristics. Text: Kraemer's *Applied and Economic Botany*. Laboratory fee \$2.00. Deposit \$2.00.

7. **Pharmacognosy.**—Four credits; second term; first year. Prerequisite, Course 6. This course embraces a careful study of source, characteristics and constituents of all the crude drugs of the United States Pharmacopoeia, Ninth Decennial Revision, and of the more typical and important ones of the National Formulary. Special stress is laid on the identification of the crude drugs and their respective powders. Text: Kraemer's *Scientific and Applied Pharmacognosy*. Laboratory fee \$2.00. Deposit \$2.00.

8. **Pharmacognosy.**—Four credits; third term; first year. Continuation of Course 7. Laboratory fee \$2.00. Deposit \$2.00.

9. **Theoretical Pharmacy.**—Four credits; second term; first year. A study of the comparison of the weights and measures of the various systems, and of the theory of the application of the methods used in pharmaceutical manufacture. Text: Remington's *Practice of Pharmacy*, Volume I, with lectures by the instructor.

10. **Theoretical Pharmacy.**—Three credits; third term; first year. Prerequisite, Course 9. Continuation of Course 9.

11. **Practical Pharmacy.**—Two credits; third term; first year. Preparation of waters, syrups, mucilages, and other galenicals prescribed by the instructor. Text: Remington's *Practice of Pharmacy*, Volume I. Laboratory fee \$2.00. Deposit \$2.00.

12. **Theoretical Pharmacy.**—Four credits; first term; second year. Prerequisite, Courses 9, 10 and 11. A careful study of the official inorganic salts and their compounds, solutions, emulsions, powders, pills, ointments and plasters. Text: Remington's *Practice of Pharmacy*, Volume II.

13. **Practical Pharmacy.**—Three credits; first term; second year. Application of principles involved in Course 12. Text: Remington's *Practice of Pharmacy*, Volume II. Laboratory fee \$5.00. Deposit \$2.00.

14-15. Dispensing.—Eight credits; second term; second year. Prerequisite, all courses of Theoretical and Practical Pharmacy and Chemistry. The course is so designed as to acquaint the student with the actual work that comes before him in the store, and to give him the practical side of the work, previously given in lectures on incompatibility and prescription filling. Text: *The Art of Compounding* (Scoville). Laboratory fee \$5.00. Deposit \$2.00.

16. Prescription Practice.—Four credits; third term; second year. Prerequisite, Courses 1 and 2, and 14. Special attention will be given to the National and State Laws governing the importation, commercial disposition and the medico-legal aspects of prescription practice. Adequate practice is also devoted to the use of the more important National Formulary and Proprietary preparations. Text: *Scoville's Art of Compounding*. References: *Ruddiman's Incompatibles in Prescriptions*; *Remington's Practice of Pharmacy*; *Holland's Toxicology*; *Sollman's Manual of Pharmacology*; *Potter's Therapeutics and Materia Medica*; National and State Laws. Laboratory fee \$5.00. Deposit \$2.00.

17. Drug Assaying.—Four credits; second term; second year. Prerequisite, Elementary Chemistry. A careful study of the chemical technique and sufficient amount of manipulation is accorded each student to enable him to make gravimetric and volumetric analyses as outlined in the *United States Pharmacopoeia*. Students are required to prepare their own volumetric and indicator solutions. Text: *Schimpf's Essentials of Volumetric Analysis*. References: U. S. P. and lecture notes by instructor. Laboratory fee \$2.00. Deposit \$2.00.

18. Drug Assaying.—Four credits; third term; second year. Continuation of Course 17. Laboratory fee \$2.00. Deposit \$2.00.

19. Urine Analysis.—Four credits; first term; third year. Prerequisite, Chemistry and Physiology of the Pharmacy course. Each student is required to make a careful, and systematic chemical and microscopic study of the urine with sufficient outside reading and lecture work to enable the student in his interpretation of the results which he may find. Text: Reference works; *Holland's Medical Toxicology*; *Long and Abderhalden's Physiological Chemistry*, and lecture notes. Laboratory fee \$2.00. Deposit \$2.00.

20. Toxicology.—Four credits; second term; third year. Prerequisite, first and second year Pharmacy courses. A systematic physiological and chemical study of the more common poisons, together with the nature, effect and antidotes for same. Lectures will also be given concerning the medico-legal aspect. Text: *Autenrieth's Detection of Poisons*. Reference: *Holland's Toxicology*; *Sollman's Manual of Pharmacology*; *Howell's Physiology*; *Potter's Therapeutics and Materia Medica*; *Journal of Experimental Medicine*. Laboratory fee \$2.00. Deposit \$2.00.

21. Toxicology.—Four credits; third term; third year. Continuation of Course 20. Laboratory fee \$2.00. Deposit \$2.00.

Courses offered in other departments:

Accounting, Commercial Department.

Pharmaceutical Physiology, Department of Zoology and Rural Sanitation.

Bacteriology, Department of Zoology and Rural Sanitation.

Organic Chemistry, Department of Chemistry.

Pharmaceutical and Chemical Calculations, Department of Chemistry.

Advanced Organic Chemistry, Department of Chemistry.

Laboratory fee \$2.00. Deposit \$2.00.

MUSIC

Professor Christensen; Assistant Professor Peterson; Miss Wynn; Miss Fields; Mr. Roller

The purpose of this department is to give the very best musical training possible at a minimum cost, without sacrificing the high standards of the institution.

It is generally recognized that few branches of study require a greater and broader training of the mind than does the study of music, and not only cultivation of the mind, but of the emotions as well. The emotional is a phase too often neglected in education, although it has so important a part in life. In music one must learn to control—to keep in the background—one's own emotions, in order to give true expression to the thoughts of the master minds which have so wonderfully woven the beautiful harmonies.

A knowledge of music also serves to give proper balance to an education, the aesthetic side of which is too often neglected.

Our course is arranged with a view of supplying the needs more especially of those who wish to broaden themselves and to make it a part of their general education.

Advantages

Opportunities are given for the hearing of the best music during the school year, which is a most important adjunct to proper musical education. These occasions include our high-

grade faculty concerts, and an Artists' course which consists of recitals by some of the best musicians of the country.

In addition to these advantages, there will be trained a choral union, a chapel choir of twenty-four picked voices, a men's glee club, a women's glee club and a ladies' band.

One credit a year will be given to Juniors and Seniors for choral singing in either Choral Union or Chapel Choir, as well as for work in Band and Orchestra, provided the work is carried for a full school year.

Professor Christensen will conduct the College bands and orchestra, both of which have already made an excellent reputation throughout this part of the country.

The Men's Glee Club and Orchestra have made tours through different parts of the state and have met with great enthusiasm and success.

Recitals are also required of all students at various times during the year and attendance is obligatory upon every student in this department.

Conditions for Entrance

The candidate for admission to the College must be at least fourteen years of age and of good moral character, and must have completed the work of the public schools as far as the ninth grade.

Students of music will be required to take at the same time at least eight hours work outside of the department approved by the classifying officer. Students of Public or High Schools may enroll if written permission from their principal is presented.

Absences

No lessons will be made up except those missed because of sickness and when reported in advance to the instructor. If absence is necessary for other reasons permission must be obtained from the administration.

Lessons will in no case be made up after the close of the quarter.

In view of the extremely low tuition, lessons missed on account of college holidays will not be made up.

Students' Convocation

The Music Students' Convocation meets once each month, at which programs are given by students or faculty. As this is part of the school work each student of music is required to be present.

Courses

Three courses are available for students of this department.

1. Preparatory.
2. Academic.
2. Collegiate.

The Preparatory Course is open to all beginners and consists of rudiments, tone production, formation of correct habits of thought and execution, etc.

The Academic Course is for those who do not desire to complete the full course, but only to become fairly proficient as performers and to secure a general knowledge of the fundamental principles of the art. At the completion of this course, the student is awarded a certificate of proficiency or merit.

The Collegiate Course leads to graduation and consists of four years' work. To complete this course, the student must have secured a thorough knowledge of harmony, theory and history as outlined in these respective courses. Upon its completion, the student will be given a diploma in music, provided the entrance requirements to the freshman class of the college have been completed.

For convenience, music students who have completed the entrance requirements to the Freshman class and one year of the Collegiate course in music will be ranked as though they were carrying full college work, provided that in addition to the full Collegiate courses in music they carry other college work amounting to twelve credits. In such work of the department as may be sufficiently advanced, college credit will be given and a reasonable amount counted towards the completion of the requirements for the Bachelor's degree.

VOICE

Miss Wynn

The teaching of voice is based on the principles of the Italian bel canto, beautiful singing, and of the old French school, which gives greater attention to style and diction. Combined with a thorough knowledge of breath control, diaphragmatic breathing, the voice is developed easily and surely with breath, tone-placing and diction, all equal factors in its growth.

Special attention is paid to the needs of each pupil, with individual exercises and studies selected according to the requirements of each voice.

Study will be made of the interpretation of songs and ballads chosen from the best of French, Italian, English and American composers with strict attention to rhythm, enunciation and phrasing.

Voice Outline

First Year	Second Year	Third Year
Voice culture	Voice culture	Voice culture
Piano	Harmony	Harmony and
Sight reading	Ear training	counterpoint
History of music	Chorus training	Theory
Chorus training	Languages	Advanced ear train-
Study of one for-	Songs	ing
eign language		Church music
Songs		Chorus training
		continued
		Song literature
		Hymnology, orato-
		rio and opera airs
		Successful public
		appearance in
		recital

Fourth Year.—Graduate programs prepared, the science of building and arranging programs, advanced work in song literature, work given to develop artistry in singing. Counterpoint and composition.

First Year.—Breath movement, teaching the use of the diaphragm, the building of the chest and the proper position for singing. Exercises for the development and placing of the voice. Sieber's thirtysix eight measure vocalizes, manuscript exercises in articulation and phrasing. Easy songs in English.

Second Year.—Continued breath work. Scale practise for precision and agility. Studies by Lutgen; Concone, Tosti and Vaccai. Old Italian, French and English songs.

Third Year.—Voice development continued. Songs in French, Italian and English. Arias and duets from operas.

Fourth year.—Exercises continued as above, increasing in difficulty. Recitatives and arias from standard oratorios and operas. Advanced songs by American composers.

For the diploma in voice, the pupil must complete the courses in harmony, theory and history of music, ear training, and sight reading, chorus training, and must also complete the work of the academic course in instrumental music.

PIANO

Assistant Professor Peterson; Miss Fields

The study of piano is conducted with a view to balancing more perfectly the training of the mind and the cultivation of technical power. Too often stress is placed upon one or the other, more frequently the latter, to an extreme. Technic is but the means to an end; i. e., the correct interpretation of the masters, and should be so considered.

Special attention is directed from the very beginning to the student's habit of thinking. This is done largely through the method of harmonic analysis and memorizing in an orderly and concentrative manner.

The musical side of the student's personality is brought into action through intelligent and artistic interpretation and its development is materially assisted by his having the opportunity to hear good music, artistically rendered as often as possible.

In technical development, special work is given for the acquisition of finger strength and independence, a correct position of the hand and purity of tone. Since it is now gener-

ally believed that the purest and sweetest tones are secured from direct finger action, this is much emphasized throughout the course.

These fundamental ideas are associated with the principle, the understanding of which is so necessary to the successful teacher, that efforts should continually be made to render the study of the piano less irksome and as intensely interesting to the student as it can be made.

Piano Outline

First Year	Second Year	Third Year
Piano	Piano	Piano
Harmony	Harmony	Harmony and
Musical Literature	Musical History	Counterpoint
and Analysis		Violin or Voice
Ear Training		Ensemble Playing
		Theory

Fourth Year.—Graduate programs prepared, the science of building and arranging programs, advanced work given to develop and broaden the musical as well as the educational side. Counterpoint and Composition.

Preparatory Course

Studies from Czerny, Gurlitt, Macdougall, Bach and other composers; sonatinas from Clementi, Kuhlau, Gurlitt, etc.; the easier sonatas of Haydn and Mozart, and the less difficult compositions of Schumann, Grieg, MacDowell, Schubert, Chopin and others.

Collegiate Course

First Year.—Etudes of Heller, Czerny, Foote; selections from the Bach suites and sonatas of Beethoven, Haydn and Mozart; compositions of Mendelssohn, Schubert, Chopin, Schumann, Grieg, MacDowell, etc.

Second Year.—Studies from Bach, (inventions and suites), Heller, Czerny, and others; sonatas of Mozart and Beethoven; solos selected from Weber, Chopin, Mendelssohn, Schumann, Grieg, MacDowell, Liszt and others; also some of the easier concertos of Mendelssohn, Reinecke, Weber, Mozart, etc.

Third Year.—Studies from Bach (Well Tempered Clavichord),

Chopin, Liszt, Foote; sonatas of Schubert, Beethoven, Grieg, Weber, Chopin; solo work of Mendelssohn, Weber, Schumann, Liszt, Rubinstein, Grieg, MacDowell and the modern French, Russian and American composers; concertos of Beethoven, Rubinstein, Chopin, Schumann, Saint Saens, etc.

(For examination last year, students played a movement from Mendelssohn's Concerto in G Minor, a Bach Fugue and an expression piece selected from some of the composers of the Romantic School.)

Fourth Year.—Graduate programs prepared, the science of building and arranging programs, advanced work given to develop and broaden the musical as well as the educational side.

VIOLIN

Assistant Professor Christensen; Mr. Roller

Position, tone production on open strings, most important rudiments of musical theory in general, Hohmann's Violin School, Book 1; duets by Gebauer and Mazas; miscellaneous solos with piano accompaniment.

Collegiate Course

First Year.—Two octave scales in all major and minor keys; Sevcik, Opus 1, Book 1, Violin Technique; study of the positions, Hohmann, Book IV, studies by Wohlfart, Opus 45, Books I and II; miscellaneous solos with piano accompaniment.

Second Year.—Three octave scales in all major and minor keys; Sevcik, Opus 7, Violin Technic, Books I and II; Sevcik's "Four Thousand Bowings;" Kayser's Etudes, Opus 20, Books I and II; Mazas, Opus 36, Book 1, Violin Studies; solos with piano accompaniment by DeBeriot, Wieniawski, Mendelssohn, etc.

Third Year.—Sevcik, Opus 7, Books I and II; Sevcik's "Four Thousand Bowings;" Schralieck's Technical Studies; Mazas Studies, Opus 36, Book II; etudes by Dont and Kreutzer; solos by Wieniawski, Vieuxtemps, Mendelssohn, Bruch, Godard, etc.; concertos by Viotti, De Beriot, etc.

Fourth Year.—Graduate programs prepared, the science of building and arranging programs, advanced work given to develop and broaden the musical as well as the educational side. Counterpoint and Composition.

Violin or Violoncello Outline

First Year	Second Year	Third Year
Violin or Cello	Violin or Cello	Violin or Cello
Harmony	Harmony	Harmony and
Piano	Musical Literature	Counterpoint
Musical History	and Analysis	Ensemble Playing
Ear Training		Theory

PIPE ORGAN

Mr. Peterson

At the present the College has no pipe organ, but it is expected that a very fine organ will be installed in the College Auditorium in the near future, and anyone desiring to take up the study of this department will have the opportunity of taking the full organ course here at State College.

It is often possible, however, to arrange for practice in some of the city churches and rates of tuition are listed accordingly.

HARMONY

Assistant Professor Peterson

In the study of harmony, the older ideas of harmonizing a given melody or figured bass are discarded. The student is taught from the beginning to write his own melodies for harmonization, thus, while stimulating his originality and inventive ability, taking from the study of harmony that mechanical and superfluous aspect so often too apparent to the pupil, and firmly establishing its proper place in the study of music.

In the first year (collegiate) the student receives ear training and the rudiments of harmony, including intervals, scales and chord formation, chords and their tonal relations, melody writing and simple harmonization.

In the second year, melody writing is continued, harmonization a little further developed, new chords introduced, etc.

The third and fourth years lead to altered chords and

modulation, elaboration of melody, imitation, counterpoint, canon, fugues and composition in the easier forms.

This study is generally conducted in classes of four or five, but those who desire quicker advance may secure private lessons at special rates, according to the statement upon another page.

HISTORY

The classes in the study of musical history are conducted by Miss Fields. This clearly follows the development of music and musical instruments from the earliest to the present time. This is a subject upon which every musical student should be well grounded, and some knowledge of it is essential in the general educational equipment of everyone who is at all musically inclined. An examination upon this subject must be passed by all students before receiving certificates or diplomas.

THEORY

The study of theory is conducted by Mr. Peterson. This study includes the principles of acoustics and formation of sound, together with a study of analysis of musical forms; simple songs, forms, arias, ballads, and other vocal forms; the more simple forms of dance music, leading to the higher forms of the sonatina and sonata, canon, fugue, etc.

This study is also required of all students receiving certificates or diplomas.

EAR TRAINING

A special class in ear training and sight reading is included in the course, conducted by a capable and experienced teacher. This study will be required of all music students.

EXPENSES OF STUDENTS

The tuition for regular work throughout the year is listed in the table of fees below and depends upon the instructor, subjects studied, etc.

The terms and prices to the student of the five months' course in Agriculture will be the same as that for a quarter and a half, as given below.

FEES

The following fees will be charged a quarter for instruction:

Miss Wynn

Voice—

Two half hour lessons per week, major work.....	\$19.00
One half hour lesson per week, minor work.....	11.50

Mr. Christensen.

Violin, Viola, Cello and Band Instruments—

Two half hour lessons per week, major work.....	\$19.00
One half hour lesson per week, minor work.....	11.50

Mr. Peterson.

Two half hour lessons per week, major work.....	\$19.00
One half hour lesson per week, minor work.....	11.50

Pipe Organ—

Double the above rates.

Miss Fields and Mr. Roller

Piano and Violin—

Two half hour lessons per week, major work.....	\$17.50
One half hour lesson per week, minor work.....	10.00

Harmony, history, theory, ear training, sight reading, etc., in classes, free to all students taking major work in voice, piano or violin.

Private lessons in harmony may be obtained for the additional fee of \$7.00 a quarter. Students desiring private lessons in harmony and studying in more than one department, for example, both voice and piano departments, will be given a discount of \$3.00 a quarter to cover the free theoretical work to which they are entitled in each of these departments.

Practice pianos may be used at the following rates a quarter:

One hour a day, \$3.00.

Two hours a day, \$5.00.

Three hours a day, \$6.50.

Four hours a day, \$8.00.

ART

Professor Caldwell; Assistant Professor Goddard

The courses in the art department are planned to cultivate appreciation of the relation between the practical and the beautiful.

Training in knowledge of form, proportion, color, and technique, is given in drawing, design, and handicraft classes.

The department is equipped with a good collection of casts and photographs, and with such tools as are necessary for class work.

1, 2, 3. **Freehand Drawing.**—Two credits a term. An elementary course to teach the use of pencil in outline and light and shade drawings. Some practice is also given in the use of colored crayon and pen and ink.

4, 5, 6. **Freehand Drawing.**—Two credits each term. A course in drawing from objects and nature with pencil, crayons, and water color, to teach the use of these mediums, and to study composition, perspective, and color. Attention is paid to spacing, mounting, and color harmony.

7. **Charcoal Drawing.**—One or two credits each term. A study from casts and still life to teach the facts of form and the beauty of light and surfaces.

8. **Applied Design.**—Three credits; fall term. One recitation and two three-hour laboratory periods. A study of the principles of design and their application in the handicrafts most closely related to the home. Laboratory practice is given in such crafts as weaving, basketry, pottery, stencilling, and bookbinding.

9. **Costume Design.**—Three credits; winter term. One recitation and two three-hour laboratory periods. A study of the elements of design involved in costume. This includes the discussion of the principles governing line and color, and also exercises applying these principles to designs for costumes.

10. **House Decoration.**—Three credits; spring term. One recitation and two three-hour laboratory periods. A study of line, proportion, value, color, and material found in the construction and furnishing of a well designed house.

11. **Handicraft.**—Two credits each term. This course is designed to develop an appreciation of design, color, material, and workmanship. Instruction is given in basketry, pottery, leather-tooling, stencilling, weaving, bookbinding, and metal, jewelry and lace work.

12, 13, 14.—**Art History.**—Two credits each term. This course is planned to aid the student in understanding and enjoying the great masterpieces of architecture, sculpture, and painting. Pictures and lantern are used..

15. **Painting.**—One credit each term. Study of form, and color from nature and still life in oil, watercolor, and pastel.

A certificate will be given to students who have 24 credits in drawing and painting, 9 credits in handicraft, and who have satisfactorily completed Courses 9, 10, 12, 13, and 14.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS**Lieutenant Williams, Commandant**

The Military Department, S. D. S. C., consists of a Senior Division, Reserve Officers' Training Corps, and provides the following course in military science and tactics:

Freshman Year and First Two Years Preparatory School**1-2-3. Military Art.—Three hours a week.**

(a) **Practical.**—Weight 10. Physical drill (Manual of Physical Training—Koehler); Preliminary instructions,—sighting, position and aiming drills, gallery practice, nomenclature and care of rifle and equipment. Infantry drill (U. S. Infantry Drill Regulations), to include School of Battalion, close and extended order; fire direction and control; ceremonies; manuals (Part V, Infantry Drill Regulations); bayonet combat; intrenchments (584-595, Infantry Drill Regulations); first-aid instruction; range and gallery practice.

(b) **Theoretical.**—Weight 4. Theory of target practice, individual and collective (use of landscape targets made up by U. S. Military Disciplinary Barracks, Fort Leavenworth, Kans.); military organization (Tables of Organization); map reading; service of security; personal hygiene. Lectures, general military policy as shown by military history of United States and military obligations of citizenship; service of information; combat (to be illustrated by small tactical exercises); United States Infantry Drill Regulations, to include School of Company; camp sanitation for small commands.

Sophomore Year and Second Two Years Preparatory School.**4-5-6. Military Art.—Three hours a week.**

(a) **Practical.**—Weight 10. The same as course (a). Combat firing, if practicable, but collective firing will be attempted in indoor ranges by devices in vogue at United States Disciplinary Barracks; signaling; semaphore and flag; first aid. Work with sand table by constructing to scale intrenchments, field works, obstacles, bridges, etc. Comparison of ground forms (constructed to scale) with terrain as represented on map; range practice.

(b) **Theoretical.**—Weight 4. United States Infantry Drill Regulations to include School of Battalion and Combat (350-622); Small-Arms Firing Regulations; lectures as in (b) Course 2; map reading; camp sanitation and camping expedients. Lectures, military history (recent); service of information and security (illustrated by small tactical problems in patrolling, advance guards, rear guards, flank guards, trench and mine warfare, orders, messages, and camping expedients); marches and camps (Field Service Regulations and Infantry Drill Regulations).

The first two years of this course are required of all students who enroll below the junior class.

After satisfactory completion of these two years, students may elect to take the Advanced Course under the following provision of General Orders No. 49, War Department, 1916:

"Advanced Course

35. Any member of the senior division who has completed two academic years of service in that division, who has been selected for further military training by the president of the institution and the professor of military science and tactics, and who executes the following written agreement, will be entitled, while not subsisted in kind, to the commutation of subsistence fixed by the Secretary of War in accordance with law:

Contract

.....,
....., 191 .

In consideration of commutation of subsistence to be furnished me in accordance with law, I hereby agree to continue in the Reserve Officers' Training Corps during the remainder of my course in

.....
(Institution)

to devote five hours per week during such period to the military training prescribed, and to pursue the courses of camp training during such period, prescribed by the Secretary of War.

Witness....."

ADVANCED COURSE

Junior Year

7-8-9. Military Art.—Five hours a week.

(a) **Practical.**—Weight 13. Duties consistent with rank as cadet officers or noncommissioned officers in connection with the practical work and exercises laid down for the unit or units. Military sketching.

(b) **Theoretical.**—Weight 11. Minor tactics; field orders (studies in minor tactics, United States School of the Line); map maneuvers. Weight 8. Company administration, general principles (papers and returns). Weight 1. Military history. Weight 2. Elements of international law. Weight 2. Property accountability; method of obtaining supplies and equipment (Army Regulations). Weight 1.

Senior Year

10-11-12. Military Art.—Five hours a week.

(a) **Practical.**—Weight 13. Duties consistent with rank as cadet officers or noncommissioned officers in connection with the practical

work and exercises scheduled for the unit or units. Military sketching.

(b) **Theoretical.**—Weight 11. Tactical problems, small forces, all arms combined; map maneuvers; court martial proceedings (Manual for Courts-martial. Rifle in war. International relations of America from discovery to present day; gradual growth of principles of international law embodied in American diplomacy, legislation, and treaties. Lectures: Psychology of war and kindred subjects. General principles of strategy only, planned to show the intimate relationship between the statesman and the soldier (not to exceed five lectures).

WHAT THE GOVERNMENT OFFERS TO MEMBERS OF R. O. T. C.

Senior Division

Each man will receive: (Actual cost value)	Additional for those attending summer camps:
1 coat wool O. D.....\$ 9.79	2 breeches cotton O. D....\$ 3.38
1 breeches wool O. D..... 6.32	1 shoes russet or marching 4.65
1 shoes russet or marching 4.65	1 shirt wool O. D..... 3.50
1 shirt wool O. D..... 3.50	1 leggins pair canvas..... 1.05
1 overcoat O. D. short.... 13.56	1 hat additional 2.00
1 leggins pair canvas..... 1.05	1 hat cord ..... .09
1 hat service 2.00	
2 collar ornaments ..... .07	
1 hat cord ..... .09	
1 belt ..... .23	
chevrons ..... .57	
<hr/>	
Per year.....\$41.83	\$14.67
Each man will receive in four years property valued at	
4 × \$41.83	\$167.32
Each man will receive in three summers property valued at	
3 × \$14.07	44.01
Each man recommended will receive commutation of subsistence, two years, or 590 days, at 40c per day.....	
	236.00
Each man may receive commutation of subsistence in kind (not paid in cash) three summers, 135 days, at 40c per day	
	54.00
Transportation average 1000 miles per summer, or 3,000 miles for three summers, at 4c.....	
	120.00
<hr/>	
	\$621.33
Average for each of the four years in college course.....	
	135.33
Besides the items mentioned above, equipment issued for each student amounts to at least.....	
	50.00

Upon completion of the above course the student, pro-

vided he is recommended by the President of the College, and the Professor of Military science and tactics, may be appointed to the Officers' Reserve Corps of the Army under the provisions of the Act of Congress of June 3, 1916, which provides that:

"Sec. 51. Any physically fit male citizen of the United States, between the ages of twenty-one and twenty-seven years, who shall have graduated prior to the date of this act from any educational institution at which an officer of the Army was detailed as professor of military science and tactics, and who, while a student at such institution, completed courses of military training under the direction of such professor of military science and tactics substantially equivalent to those prescribed pursuant to this act for the senior division, shall, after satisfactorily completing such additional practical military training as the Secretary of War shall prescribe, be eligible for appointment to the Officers Reserve Corps and as a temporary additional second lieutenant in accordance with the terms of this act.

Sec. 52. The President alone is hereby authorized to appoint and commission as a temporary second lieutenant of the Regular Army in time of peace for purposes of instruction, for a period not exceeding six months, with the allowances now provided by law for that grade, but with pay at the rate of \$100 per month, any reserve officer appointed pursuant to sections forty-nine and fifty-one of this act and to attach him to a unit of the Regular Army for duty and training during the period covered by his appointment as such temporary second lieutenant, and upon the expiration of such service with the Regular Army such officer shall revert to his status as a reserve officer.

Among important facilities and equipment for the military department are: A large, well drained parade and drill ground, with abundant maneuver ground within a short distance from the Armory; a new armory with an unobstructed drill floor 100x165; offices in which cadet officers and non-commissioned officers are trained in military paper work; and an indoor gallery range, which offers exceptional opportunities, being equipped as are out-of-doors target ranges.

DEPARTMENT OF COMMERCE

Professor Schlatter; Miss Slocum

The department of commerce offers:

(1) The Secretarial course for students who have completed a high school course. The object is to train high grade

stenographers and secretaries, the demand for which greatly exceeds the supply. Many Civil Service examinations are held in Brookings, and students who desire to take them are encouraged to do so and are given all the preparation possible.

The courses are so arranged that students are given considerable actual office practice during the second semester just before completing the course. The idea is to train the student for immediate service in office work, and to minimize the customary bungling of the beginner.

Those who complete the year's course as outlined below receive a Secretarial Certificate.

The Secretarial Course

First Quarter

Shorthand (7)	4
Typewriting (10)	3
English (Freshman)	3
Business Law (14)	4
Accounting (16)	3

Second Quarter

Shorthand (8)	4
Typewriting (11)	3
English (Freshman)	3
Business Organization and Control (19).....	4
Accounting (17)	3

Third Quarter

Shorthand (9)	4
Secretarial Practice (13)	3
English (Freshman)	3
Money and Banking (15), or	
Economic Geography (20)	4
Accounting (18)	3

(2) Elective for students in other departments of the college and in the preparatory department who wish to secure some business training along with their regular work.

The Business Subjects

The following subjects are offered in the department of commerce. At the end of the description of each subject is stated whether the subject is offered to college or to preparatory students:

1. **Business Methods.**—Three credits; first quarter; three rec-

tations a week. A practical course designed to teach the student to write creditable business forms, and to give him an elementary knowledge of practical business methods. Offered to preparatory students.

2 and 3. **Commercial Geography.**—Three credits; second and third quarters; three recitations a week. Study of industry and commerce, local, national, and international. This course will be illustrated by the use of a commercial museum. The student will be required to learn the use of government reports and other sources of information in collecting data. Offered to preparatory students.

4, 5 and 6. **Bookkeeping.**—Three credits each quarter; six hours of recitation and laboratory a week; continues thru the year. Double entry is studied, beginning with fundamental principles and taking up the more complex forms as the class advances. Offered to preparatory students.

7, 8 and 9. **Shorthand.**—Four or five credits each quarter; five recitations a week. The course continues thru the year and cannot be entered after the first quarter. The student is first thoroly grounded in the principles of Gregg shorthand. Dictation follows until sufficient speed is attained. At no time is accuracy sacrificed for speed. Offered to college students and to preparatory students who have had not less than two years of high school English.

10, 11 and 12. **Typewriting.**—One and two-thirds credits to college students for five hours a week laboratory; two credits to preparatory students for five hours a week laboratory. Graded exercises to learn machine by touch method; care of machine; correspondence and legal forms; billing and tabulating; manifolding and mimeographing. Offered to college and preparatory students. Laboratory fee \$2.00.

13. **Secretarial Practice.**—Five credits to preparatory students; no credit to college students; third quarter; ten hours laboratory a week. As far as possible practice with college offices or business firms in town. Also a great deal of practice in taking letters, etc., and transcribing on the typewriter is given in the class room. The practice will be of great value in giving preliminary experience, and will remove the fear of entering the first regular employment upon completion of the course. Offered to college and to preparatory students.

14. **Business Law.**—Four credits; first quarter; four recitations a week. Designed to acquaint the student with the fundamental principles of business law, supplemented with a study of actual cases illustrative of these principles. A topical analysis of contracts; negotiable instruments; agency; sale of chattels; bailment; etc. Offered to college students.

15. **Money and Banking.**—Four credits; third quarter; four

recitations a week. Alternates with Economic Geography. A theoretical and practical study of the history, nature, and uses of money; classification of banks, bank circulation; deposits and loans; reserves; legal regulations; clearing-houses; Federal Reserve System, etc. Offered to college students. Will be offered in 1919-20.

16, 17 and 18. **Accounting.**—Three credits each quarter; continues thru the year; six hours a week of recitation and laboratory. It is the purpose of this course to acquaint the student with the different forms of industrial organizations, and the nature and analysis of their transactions and accounts. Attention is given to the correct classification of business interests into their proper accounts with special reference to their relations in the different kinds of statements. Offered to college students.

19. **Business Organization and Control.**—Four credits; second quarter; four recitations a week. Business principles, organization and methods are discussed in non-technical language, in such a manner as to make the work profitable to the general student as well as to the student of business. Topics discussed are: Single proprietorship, partnership, syndicate, co-operative organization, corporation, holding company, trust, different kinds of stocks and bonds, methods of financing, etc. Offered to college students.

20. **Economic Geography.**—Four credits; third quarter; four recitations a week. Alternates with Money and Banking; will be given in 1920-21. A practical study of the geography of production. The following topics are studied as thoroly as possible in the limited time given to this subject: Regions of production and consumption of grains; fruits; sugar; tea; coffee and cocoa; cotton; wool; beef and dairy products, swine; fisheries; forests, coal; petroleum; iron and steel. Also some time is given to the study of manufacturing industries, origin and basis of trade, ocean and land trade routes, commercial centers, and types of commercial nations. This subject is especially desirable to those students who expect some time to be able to judge trade and market conditions intelligently. Offered to college students.

PREPARATORY DEPARTMENT

Professor Forsee

For the benefit of students who do not have high school advantages a preparatory department is maintained. This course, the work of which extends over four years, contains certain required subjects that are considered necessary to a liberal education. The remaining work may be chosen from a large list of elective subjects. The student who pursues the

course may thus secure a good preparation for entering upon more advanced work or a training for practical life.

The course conforms to the admission requirements as far as the conditions of the College permit. Students will be admitted to the college courses upon the completion of the required subjects and an additional amount of work chosen from the elective subjects to make fifteen units, a unit being five hours a week throughout the year. This requires about three hours of elective work a week in addition to the required subjects during the four years. In addition to the requirements outlined below, all students will be required to attend and take part in literary society work, for which they will receive reasonable credit.

PREPARATORY COURSE

First Year

	Credits		
	First Term	Second Term	Third Term
English Composition	5	5	5
Arithmetic	5	2 ½	
Algebra		2 ½	5
Physiography	5	2 ½	
Civics		2 ½	5
Business Methods	3		
Commercial Geography		3	3
Elective	2	2	2
Military Art	1	1	1
	<hr/>	<hr/>	<hr/>
	21	21	21

Second Year

	Credits		
	First Term	Second Term	Third Term
Composition and Rhetoric.....	5	5	5
Algebra	5	3	5
Biology	5	5	5
Elective	5	7	5
Military Art	1	1	1
	<hr/>	<hr/>	<hr/>
	21	21	21

Third Year

	Credits		
	First Term	Second Term	Third Term
American Literature	4	4	4

Plane Geometry	4	4	4
French or Spanish	5	5	5
Elective	7	7	7
Military Art	1	1	1
	—	—	—
	21	21	21

Fourth Year

	Credits		
	First Term	Second Term	Third Term
English Literature	3	3	3
Elementary Physics	5	5	5
French or Spanish	5	5	5
English History	3	3	3
Elective	3	3	3
Military Art	1	1	1
	—	—	—
	20	20	20

PREPARATORY ELECTIVES

	Credits		
	First Term	Second Term	Third Term
Freehand Drawing	3	3	3
Mechanical Drawing	3	3	3
Carpentry	3	3	3
Forging	2	2	2
Shorthand	5	5	5
Elementary Agriculture	3	3	3
Typewriting	2	2	2
Elementary Physiology	3	3	3
Cooking	3	3	3
Sewing	3	3	3
Bookkeeping	3	3	3

SCHOOL OF AGRICULTURE**Professor Wiseman**

The School of Agriculture has for its specific purpose the training of young people for the life and work of the farm and home, for the social life of the rural community and for American citizenship.

The farmers' boys and girls are often needed on the farm and in the homes to help the parents during the busy season of the year. They can usually be spared from such work dur-

ing the winter season, and may well spend this time in study which will prepare them for practical, profitable farming and successful home management.

While the subjects of study consist primarily of those that relate to farming and household economy, they include also such subjects as are usually given in a regular high school course. For example, English, mathematics, history, civics, chemistry, physics and biology. The technical topics include studies in soil, plants and crops, domestic animals, feeds and feeding, cooking and sewing, laundering, farm and home management, records and accounts, carpentry and blacksmithing. Text books are used when these aids best answer the purpose. Lectures are given in the subjects which can be most efficiently taught in this way. Demonstrations are given in the class rooms, laboratories, kitchen and sewing-rooms, barns, greenhouses, orchards and fields.

The School of Agriculture welcomes earnest and worthy young men and women from all parts of the state who have passed the eighth grade in the public schools and are willing to work in such a course of mental and manual training as will prepare them for life's labors, on the farms and in the homes of South Dakota.

The tuition is six dollars for the year, with a small fee for each laboratory in which work is taken.

Courses of Study

Following are the schedules of the courses of study. The academic studies are practically the same for men and women. The courses are differentiated only in such points as are related to their specific spheres in life's work.

THE FOUR-YEARS COURSE FOR YOUNG MEN

Note: The small letters and numerals after the names of subjects indicate the character of the work and the number of times a week, "a" meaning class work; "b" laboratory work.

First Year

Penmanship and Spelling	a 2
English	a 4

Arithmetic or Algebra	a	4
Poultry Culture	a	2
Farm Crops	a 3, b	2
Stock Judging	b	2
Horticulture	b	1
Carpentry	b	3
General Science	a	2
Military Drill		3

Second Year

English	a	4
Algebra or Advanced Arithmetic	a	4
Farm Accounts	b	1
Plant and Animal Life	a	5
Dairying	a 1, b	2
Breeds and Breeding	a 2, b	1
Horticulture	b	1
Blacksmithing	b	3
Military Drill		3

Third Year

English	a	4
Plane Geometry, Algebra or Advanced Blacksmithing.....	a	4
Civics	a	3
Elementary Chemistry	a and b	4
Farm Machinery	a	2
Entomology	a 1, b	1
Stock Feeding	a	5
Military Drill		3

Fourth Year

English	a	4
History	a	3
Co-operation	a	1
Geometry or Elementary Farm Management.....	a	4
Elementary Physics	a 2, b	2
Physiology	a	2
Cement Construction	b	2
Veterinary Science	a	3
Soils	b	3
Bee Keeping (Elective)	a	2
Military Drill		3

THE FOUR-YEARS COURSE FOR YOUNG WOMEN

First Year

Penmanship and Spelling	a	2
English	a	4
Arithmetic or Algebra	a	4

Craft	b	2
Poultry Culture	a	2
Cooking I	b	3
Sewing I	b	3
Dairying	b	1
Horticulture	b	1
General Science	a	2
Art Needlework (Elective)	b	1
Physical Training		2

Second Year

English	a	4
Algebra or Arithmetic	a	4
Household Accounts	b	1
Plant and Animal Life	a 3, b	2
Cooking II	b	3
Sewing II	b	3
Household Management	a	1
Art Needlework (Elective)	b	1
Freehand Drawing	b	1
Physical Training		2

Third Year

English	a	4
Plane Geometry or Algebra, or Rural School Domestic Science.	a	4
Civics	a	3
Elementary Chemistry	a and b	4
Sewing III	b	2
Cooking III	b	2
The House	a	2
Craft	b	1
Art Needlework (Elective)	b	1
Physical Training		2

Fourth Year

English	a	4
History	a	3
Co-operation	a	1
Geometry	a	4
Elementary Physics	a 2, b	2
Physiology	a	2
Sewing IV	b	2
Cooking IV	b	2
Home Nursing	a	2
Millinery	b	1
Art Needlework (Elective)	b	1
Physical Training		2

THE SUMMER SCHOOL

Professor Mathews, Director

The work of the Summer Session is planned especially for those who desire training along the industrial lines—Agriculture, Manual Training, Home Economics and allied subjects, either to secure college credits or to prepare for teaching.

The vocational field offers excellent opportunity to teachers. Salaries in this line of work are especially good and the demand for teachers exceeds the supply.

State College with her laboratories, shops, experimental plots and live stock offers many advantages to students who desire to fit themselves to teach vocational subjects.

In addition to members of the regular College staff a number of special instructors and lecturers are employed during the session.

The Summer Session for 1919 will begin June 16th and continue six weeks. The following courses will be offered:

Agriculture.—Elementary Agriculture, Stock Judging, Farm Dairying, Soils and Crops.

Home Economics.—Cookery, Sewing, Dressmaking, Serving, Handwork, Basketry, Drawing, Etc.

Mechanical.—Woodworking, Joinery and Cabinet Construction, Finishing, Mechanical Drawing, Auto Repairing and special courses for rural school teachers.

General Sciences.—Elementary Inorganic Chemistry; Elements of Physics; Civics and Rural Social Science (3 courses); English and American Literature (4 courses); Nature Study, Evolution and Sanitation (3 courses); beginning Organic Chemistry, Quantitative Chemistry, Physiology.

Education.—Educational Psychology, Principles of Teaching, Vocational Education and Agricultural Education.

Specials.—Primary Methods, Grammar, History, Civics, Geography, Algebra, Geometry.

The 1919 Summer session will begin June 16th. In connection with the Session a Joint Institute of Miner, Moody, Hamlin, Kingsbury, Deuel, Codington and Brookings counties will be held, beginning June 16th and closing June 21st. Those wishing detailed information concerning the Summer Session or Joint Institute should write to the President for the Summer School Bulletin.

THE THREE MONTHS' CREAMERY COURSE

January 5 to March 18

This course is especially designed for young men wishing to fit themselves for various positions connected with the creamery industry such as helpers, buttermakers and managers.

Prospective students are urged to get at least six months of practical experience in some creamery before attending College, as by this means it is found that much greater benefit is derived from the work at school.

The more general application of scientific principles to the manufacturing industries as well as the increasing competition on all sides demands a more thorough training in scientific and business methods than heretofore. This is no less true with regard to the creamery industry; and while the practical work of the school is by no means neglected special pains are taken to teach the underlying principles and the "reason why" for many of our daily operations. The increasing interest in dairying in South Dakota is creating a demand for men well trained along dairy lines, and applications for such are constantly being received at excellent salaries. Worthy students may count on the co-operation of the dairy department in helping them to secure positions at the close of their college work.

The following work is offered:

- Factory buttermaking and creamery management.
- Testing milk and its products.
- Dairy bacteriology.
- Dairy arithmetic and accounting.
- Breeding, feeding and management of dairy cattle.
- Agronomy.
- Veterinary medicine.
- Creamery mechanics.

The tuition is four dollars for the three months' term with a small additional fee for laboratory expenses.

A certificate of standing will be issued to all students passing satisfactory examinations on the above subjects.

Address the Dairy Husbandry Department for special bulletin describing this course and other work of the Dairy department.

GAS ENGINE, AUTOMOBILE, TRUCK AND TRACTOR OPERATION, REPAIR AND CARE

Aim

To train men to operate, care for, repair and handle these machines in a practical and efficient manner. Also to train auto repairmen and garage men.

Intended for Everyone Interested

Open to all capable of doing the work and over sixteen years of age. Anyone may enter for any part of the work providing he has the necessary preliminary training.

Opening

The course opens at the beginning of the school year September 22nd, and is divided into sections for the purpose of taking up the different subjects and also to provide for anyone who has no desire to take the complete course.

Subjects

The following subjects will be covered by the course: Blacksmithing, Acetylene Welding, Ignition (very completely), Machine Shop, Carpentry, Gas Engine Theory, Tractors, Gas Engine Repairing, Carburetion, Lubrication, Cooling and other subjects relating to this work and making the course complete.

Fifteen or more types of tractors and all makes of automobile will be at hand for study. Coils, magnetos and many motors and starters will be used in the ignition work.

Ask for special bulletin giving a full description of this course.

Agricultural Experiment Station

STATION STAFF

The number after each name indicates the year of appointment to present position on the staff; the second number, if any, indicates the date of first official connection with the college.

GEORGE LINCOLN BROWN, 1918, Acting President, Dean of the Faculty.

B. S., University of Missouri, 1892; M. S., 1893; Ph. D., University of Chicago, 1900.

JAMES WILBUR WILSON, 1902, Director and Animal Husbandman; Professor of Animal Husbandry, Instructional Division.

B. S. A., Iowa State College, 1896; M. S. A., 1898.

NIELS E. HANSEN, 1895, Vice-Director and Horticulturist, Professor of Horticulture and Forestry, Instructional Division.

B. S., Iowa State College, 1887; M. S., 1894; Sc. D., University of South Dakota, 1917.

R. A. LARSON, Secretary of the College.

MANLEY CHAMPLIN, 1914, 1909, Assistant Agronomist; Associate Professor of Agronomy in the Instructional Division; Specialist in Field Crops, Extension Division.

B. S., South Dakota State College, 1909; M. S., 1914.

ALBERT NASH HUME, 1911, Agronomist and Superintendent of Sub-Stations; Professor of Agronomy in the Instructional Division.

B. S. A., Purdue University, 1900; M. S., 1902; Ph. D., Goettingen University, 1910.

JOSEPH GLADDEN HUTTON, 1911, Associate Agronomist; Associate Professor of Agronomy in the Instructional Division; Specialist in Soils, Extension Division.

B. S., University of Chicago, 1908; M. S., University of Illinois, 1910.

CHRISTIAN LARSEN, 1907, 1918, Dairy Husbandman; Director of the Extension Division; Professor of Dairy Husbandry in the Instructional Division.

B. S. A., Iowa State College, 1902; M. S. A., 1904.

H. C. SEVERIN, 1909, Entomologist; Professor of Entomology and Nature Study in the Instructional Division.

B. A., University of Wisconsin, 1906; M. A., Ohio University, 1908.

MATTHEW FOWLDS, 1914, 1913, Assistant in Crops; Assistant in Agronomy, Instructional Division.

B. S., South Dakota State College, 1913.

B. L. JOHNSON, 1918, Dairy Analyst.

B. S., Massachusetts Agricultural College.

HOWARD LOOMIS, 1910, Agronomy Analyst.

A. B., Albion College, 1909.

R. C. SHERWOOD, 1916, 1914, Assistant Chemist; Instructor in Chemistry in the Instructional Division.

B. S., South Dakota State College, 1914; M. S., 1916.

THOMAS H. WRIGHT, JR., 1917, Assistant Dairy Husbandman and Dairy Bacteriologist; Instructor in Dairy Husbandry in the Instructional Division.

B. S., in Dairying, Iowa State College, 1914.

ARTHUR HENRY KUHLMAN, 1918, Associate Animal Husbandman; Associate Professor of Animal Husbandry.

B. S., University of Wisconsin, 1910; M. S., University of Wisconsin, 1916.

ROBERT A. WYLIE, 1918, Assistant Dairy Husbandman; Assistant Professor of Dairy Husbandry, Instructional Division.

B. S. A., University of Ohio, 1915; A. M., University of Missouri, 1916.

Under the provisions of the Hatch Act of March 2, 1887, and the Adams Act of March 20, 1906, the state receives annually \$30,000 from the treasury of the United States for the maintenance of an experiment station. By an act of the legislature this institution was made a part of the South Dakota Agricultural College. Its object is to investigate along agricultural lines, publish the results in bulletin form and distribute them to the residents of the state for their information and benefit. It consists of six divisions, namely: agronomy,

animal husbandry, dairy, entomology, horticulture and chemistry.

Each of these divisions is in charge of an expert who is also professor of the same subject in the College.

About sixty acres of the college farm are set aside for experiments in crop rotation and testing varieties of grains.

Another tract of sixty acres is utilized for experiments along horticultural lines, where trees, shrubs and vines are grown in profusion. Adaptation of grains, grasses, forage plants, fruits, trees, shrubs and vegetables for the Northwest is being carried on in co-operation with the United States Department of Agriculture and as a result many valuable varieties have been introduced which probably would not otherwise have reached us.

Each division is provided by the state with the proper facilities to conduct investigations, and at least four bulletins are published annually, which are free to residents of the state. Inquiries pertaining to the various agricultural interests are answered promptly. The regular mailing list of the station numbers over 22,000 names.

All communications to this department should be addressed to the Director.

Agricultural Extension Division

EXTENSION STAFF

Note: The number following the name indicates the year of appointment to present position on the staff. The second number, if any, indicates the date of first connection with the college.

G. L. BROWN, Acting President, Dean of the Faculty.

CHRISTIAN LARSEN, 1918, 1907, Director of Extension Division; Professor of Dairy Husbandry, Instructional Division; Dairy Husbandman, Experiment Station.

I. B. JOHNSON, 1917, State Leader of County Agents.
B. S., Iowa State College, 1913.

R. A. LARSON, 1901, Secretary of the College.

MANLEY CHAMPLIN, 1917, 1911, Extension Specialist in Field Crops; Assistant Professor of Agronomy in the Instructional Division; Assistant Agronomist of the Experiment Station.
B. S., South Dakota State College, 1909; M. S., 1914.

H. E. DAWES, 1916, Leader of Short Courses.

J. T. E. DINWOODIE, 1916, Ext. Spec. in Animal Disease Control.
D. M. V., Vet. College, University of Pennsylvania, 1913.

IRENE DUNNE, 1918, Assistant State Club Leader.

A. L. HAYNES, 1918, Assistant State Club Leader.

J. G. HUTTON, 1916, Specialist in Soils; Associate Professor of Agronomy, Instructional Division; Associate Agronomist, Experiment Station.
B. S., University of Chicago, 1908; M. S., Univ. of Ill., 1910.

FRANK E. McCALL, 1916, Extension Specialist in Horticulture.
B. S., Iowa State College, 1911.

GUY E. MORRISON, 1915, Extension Specialist in Livestock.
B. S., South Dakota State College, 1915.

RALPH L. PATTY, 1916, Extension Specialist in Agricultural Engineering.
B. Di., Iowa Teachers' College, 1907; B. S. in Agricultural Engineering, Iowa State College, 1916.

PAUL J. SCARBRO, 1918, State Leader of Boys and Girls Clubs.

A. B., Highland Park College, 1902; B. Di., Iowa State Teachers' College, 1916.

Members of Extension Staff Located at State College, Paid Entirely from Federal Funds

HARRY J. BOYTS, 1918, Assistant County Agent Leader.

CLAUDE O. HUDSON, 1919, Extension Poultry Husbandman.

ROBERTA McNEILL, 1918, State Leader of Home Demonstration Agents.

H. H. NININGER, 1918, Special Field Agent, Grasshopper Control.

SELMA RONGSTAD, 1918, Assistant State Club Leader.

W. W. UNDERWOOD, 1916, 1918, Assistant County Agent Leader.

G. S. WEAVER, 1917, Inspector in Charge, Hog Cholera Work.

MITCHELL WILKINS, 1918, Extension Sheep Husbandman.

COUNTY AGRICULTURAL AGENTS

Name.	Address.	County.
E. C. Bird.....	Armour	Douglas
A. J. Dexter.....	Clark	Clark
O. P. Drake.....	Huron	Beadle
J. A. Gunning.....	Webster	Day
E. W. Hall.....	Redfield	Spink
R. E. Johnston.....	Hot Springs.....	Fall River
W. F. Kumlien.....	Spearfish	Lawrence
Dick Lewallen.....	De Smet	Kingsbury
N. F. Nelson.....	Pierre	Hughes
A. W. Palm.....	Watertown	Codington
H. E. Rilling.....	Wessington Springs.....	Jerauld
H. M. Sanderson.....	Philip	Haakon
R. O. Swanson.....	Howard	Miner
H. D. White.....	Ft. Pierre	Stanley
George L. Winright.....	Salem	McCook

EMERGENCY DEMONSTATION AGENTS

Name.	Address.	County.
O. Leon Anderson.....	Miller	Hand
I. J. Bibby.....	Madison	Lake
C. H. Blakely.....	White River.....	Mellette
W. C. Boardman.....	Ipswich	Edmunds
W. M. Brennan.....	Mitchell	Davison
R. R. Buchanan.....	Sisseton	Roberts
A. L. Bushey.....	Plankinton	Aurora
L. M. Carl.....	Kadoka	Jackson
P. J. Crandall.....	Elk Point.....	Union
G. G. Dokter.....	Britton	Marshall
P. V. Finley.....	Brookings	Brookings
Oscar Hermstad	Timber Lake....	Timber Lake Dist.
R. C. Jensen.....	Canton	Lincoln
D. C. Jones.....	Clear Lake.....	Deuel
D. L. Keck.....	Yankton	Yankton
Geo. B. Kennard.....	Sioux Falls	Minnehaha
H. D. McCullough.....	Woonsocket	Sanborn
Geo. R. Mayland.....	Alexandria	Hanson
C. C. Miller.....	Hurley	Turner
A. E. Nord.....	Mound City.....	Campbell
F. J. E. Persun.....	Faulkton	Faulk
Axel Petersen	Onida	Sully
H. E. Skott.....	Vermillion	Clay
Homer W. Smith.....	Rapid City.....	Pennington
R. E. Smith.....	Aberdeen	Brown
J. I. Swedberg.....	Milbank	Grant
A. W. Tompkins.....	Hayti	Hamlin
Colman Wagner.....	Selby	Walworth
H. B. Wilson.....	Flandreau	Moody

HOME DEMONSTATION AGENTS

Mary A. Dolve.....	Clark
Marjorie Sims	Canton
Mrs. Hazel Grinols Palm.....	Watertown
Edith A. Sloan.....	Aberdeen
Laura L. Jones.....	Elk Point
Mrs. Freda M. Cole.....	Philip
Harriet Lanphier	Brookings

COUNTY CLUB LEADERS

L. P. Dittamore.....	Pierre
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R. F. Grose.....	Watertown
J. H. Hamilton.....	Sioux Falls
May Kiethline	Milbank
Altha A. Moad.....	Armour
E. A. Parker.....	Hayti
Elmer E. Reed.....	Mitchell
O. G. Tracy.....	Sisseton

In 1914 Congress passed the Smith-Lever Act, appropriating a sum of money to the various states in which Agricultural Extension work including home economics should be established. The state of South Dakota in its last Legislative Session met the requirements of the Federal Act by appropriating \$115,500 for the present biennial period to be used in Agricultural Extension including county agent work. Activities are carried on under the project plan as follows:

1. Administration.
2. County Agent Work.
3. Short Course Work.
4. Boys and Girls Club Work.
5. Home Economics.
7. Farm Management.
8. Livestock Improvement.
9. Agricultural Engineering.
10. Horticulture.
11. Animal Disease Control.
12. Agronomy.

Any county in the state may secure the benefits of Federal and State appropriations in the following manner: It shall be lawful for 50 or more freeholders residing in at least one-third of the congressional townships of the county, to organize and incorporate a County Farm Bureau. The members of the association shall pay a membership fee of one dollar and shall file articles of incorporation with the Secretary of State, and elect a Board of Directors. The directors may secure an appropriation from the County Board of Commissioners which may be deposited with the Treasurer of State and be augmented from the state funds by 60 percent of the amount so deposited. The county is then in a position to ask for Federal assistance.

The state law provides for the conducting of demonstra-

tion courses in Agriculture and Home Economics in all counties not employing a county agent. This work is under the immediate supervision of the Short Course Leader and is conducted during the late fall and winter months. It takes the place of Farmers' Institutes of former years.

Boys' and Girls' Club Work is carried on in cooperation with the county superintendent of schools and through the County Farm Bureau. This work is in charge of a State Club Leader. It consists in the organization of boys and girls between the ages of 10 and 18 years into clubs for the purpose of growing corn, economical pig raising, gardening and canning, bread and garment making, etc.

Practically every county in the state of South Dakota has either a county agent or an emergency demonstration agent. The latter agents are paid by the United States Government and are responsible to the state and government jointly. The Federal emergency appropriation ceases July 1st. 1919, and most of the counties organized under the Emergency Act will continue as permanent counties under our State law.

Some counties maintain, in addition to the county agent, a home demonstration agent or a boys' and girls' club leader.

College Alumni

ALUMNI ASSOCIATION

S. P. Miller, '03.....	President
Hazel Grinols (Palm) '14.....	First Vice-President
Harmon Kopperud '17.....	Second Vice-President
*Axel Berglind	Third Vice-President
H. B. Mathews, '92.....	Secretary and Treasurer

Class of 1886

BACHELOR OF SCIENCE

Sayler, Marcus A.	Fruit Grower, Orland, Cal.
------------------------	----------------------------

Class of 1888

BACHELOR OF SCIENCE

Aldrich, John M....	Associate Curator Division of Insects, U. S. Bureau of Entomology, National Museum, Washington, D. C.
Lawrence, Philip A.	Attorney, Fargo, N. D.
Wellman, Lulah (Hewes)	Lakewood, N. Y.

Class of 1889

BACHELOR OF SCIENCE

Boswell, Katie (Arnold)	Kennebec
Cranston, Mary (Crane)	04303 Lincoln St., Spokane, Wash
Cross, Alvah G.	
Eno, Durell G.	Merchant, Platte
Grady, Francis A.	Attorney, Crookston, Minn.
Haber, Sarah (Cunningham).....	E. 804 26th Ave., Spokane, Wash.
Korstad, Hans	Rural Mail Carrier, Brookings
Larson, Lars K.	Banker, Dell, Rapids
Lawshe, Grace (Brooks)	Brookings
McKenney, Duston W.	Supervisor Manual Training, .....302 Lewis Ave., Billings, Mont.
McLouth, Lewis C.	Gen. Mgr. Minature Sales Co., .....1228 Chamber Co., Detroit, Mich.
Mork, Albert A.	Farmer, Drady, N. D.
Roe, Ellen (Aldrich).....	Died Dec. 8th, 1897, at Helena, Mont.
Rogers, Edmund....	Farmer, Sheridan St., Burnley Lanes, England
Ross, Carrie (Orcutt)	Webb, Ia.

*Died in France November, 1918.

Ross, Abbie (Wesche)Webb, Ia.
 Wardall, Anna (Scott)..Osteopath, 2640 Walnut Ave., Seattle, Wash.

Class of 1890

BACHELOR OF SCIENCE

Allen, William C.....Died in Chicago
 Day, John M.....Farmer, Mermentau, La.
 Duffey, Maggie (Irish).....7139 Lanham St., St. Louis, Mo.
 Egeburg, HildusFarmer, Brookings
 Haasarud, Ole H.Farmer, Bratsburg, Minn.
 Harkings, Lilla A.....Domestic Science Demonstration Agent,
Wait Building, Decatur, Ill.
 Hopkins, Cyril G., Prof. of Agronomy, Chemist and Vice Director
 of Exp. Station, U. of Illinois, 1001 S. Wright St., Champaign
 Jenkins, John C.....Attorney, 1102 Spaulding Bldg., Portland, Ore.
 Kenyon, Arthur H.....Lawyer, 1315 Mallon Ave., Spokane, Wash.
 Pyne, Estel W.....Capitalist, 633 S. Union Ave., Los Angeles, Cal.
 Roe, Guy W.....1435 Alvarado Terrace, Los Angeles, Cal.
 Stoner, Minna A., Prof. of Medical Dietetics, University Hospital,
Boulder, Colo.
 Wardall, Norman M.....Co. Auditor, Kings Co., Seattle, Wash.

Class of 1891

MASTER OF SCIENCE

Aldrich, John M....Associate Curator Division of Insects, U. S.
 Bureau of Entomology, National Museum, Washington, D. C.

BACHELOR OF SCIENCE

Aldrich, Irwin D....Editor and Sec. State Board of Regents, Big Stone
 Bell, William D....Advertising Manager, Roberts-Hamilton Co.,
3820 E. 36th St., Minneapolis, Minn.
 Bentley, Wm. S.Major, Medical Corps, 147th F. A., A. E. F.
 Chamberlain, Jennie (Spooner)
Physician, 813 4th Ave., Detroit, Mich.
 Crane, Austin B.....Drainage Specialist, Extension Division,
04303 Lincon St., Spokane, Wash.
 Davis, HomerPhysician, Genoa, Neb.
 Dillon, Willis C.
 Doughty, Hettie (Dibble)Alpena
 Frick, Mary (Magaw).....903 W. Zumbro St., Rochester, Minn.
 Hann, Jay B.Photographer, Bellingham, Wash.
 Houston, Grant.....Physician, Barber Bldg., Joliet, Ill.
 Irish, Henry C.....Horticulturist, 7139 Lanham St. St. Louis, Mo.
 Lewis, Perry.....Inventor, 101 E. Cherry St., Mankato, Minn.
 Robinson, Alice (Heberlein)..1710 Arlington Ave., Los Angeles, Cal.

Shannon, Fanny (Fourt).....804 E. Burlington St., Fairfield, Iowa
 Solberg, Halvor C.....Prof. Steam and Mechanical Eng., S. D. S. C.
 Updyke, Nora (Bacon).....2211 Elizabeth St., Pueblo, Colo.
 Valleau, Vinal B.....Moving Picture Theaters, Albert Lea, Minn.
 West, Hugh H.....Physician, Spurling Bldg., Elgin, Ill.
 Wolgemuth, Lee E...Research Eng., 532 S. Ridgeland Ave., Chicago, Ill.

Class of 1892

BACHELOR OF SCIENCE

Austin, Steven E.....Mechanical Engineer, Chicago
 Davis, Samuel H.....Farmer, Beaverton, Ore.
 Griffiths, David, Asst. Argonomist
Dept. of Agriculture, Tacoma Park, Washington, D. C.
 Hamlin, John R., Jr., Orange Grower.....
R. F. D. No. 6, Hawthorne, Cal.
 Harding, Albert S.....Prof. of History & Political Science, S. D. S. C.
 Hatfield, Ira A.....Died Feb. 8th, 1914, at Lincoln, Neb.
 Keeney, Emma (Ferris)Springfield, Ore.
 McAndrew, James E.....Lawyer, 906 Paulsen Bldg., Spokane, Wash.
 McLouth, Ida B.....Died Aug. 27, 1899, at Short Beach, Conn.
 Madden, Marguerite (Akin)Brookings
 Mathews, Hubert B., Acting Dean of Faculty and.....
Prof. of Physics, S. D. S. C.
 Plocker, Eva (Mathews)Brookings
 Schlosser, Thomas F.....Clergyman, Carleton, Ore.
 Sloan, Nettie (Torrence).....29 Kendall St., Redlands, Cal.
 Snell, Effie (Clark).....400 E. 14th St., University Place, Lincoln, Neb.
 Whitten, John C.....Prof. of Pomology, U. of California, Berkeley
 Winegar, Albert J.....Insurance, Box.425, Beloit, Wis.

Class of 1893

MASTER OF SCIENCE

Griffiths, David, Asst. Agronomist.....
Dept. of Agriculture, Tacoma Park, Washington, D. C.

BACHELOR OF SCIENCE

Bates, Edmund T.Farmer, Wyoming, Iowa
 Beck, Milton.....Engineer, Dusenbergs Moto Co., Elizabeth, N. J.
 Edgerton, Wm. M.....Physician, 2102 Dayton Ave., St. Paul, Minn.
 McLouth, Benjamin F., Ins. Agent.....
L. A. Investment Bldg., Los Angeles, Cal.
 Robertson, Ada N.....Teacher, R. F. D. No. 225, Anaheim, Cal.
 Robertson, Clarence H., Science Teacher and Y. M. C. A. Sec.
 for Russia, Care Y. M. C. A., 124 E. 28th St., New York, N. Y.
 Schoppe, W. J. A.Farmer, Groton

Class of 1894

MASTER OF SCIENCE

Plocker, Eva (Mathews)Brookings
 Wolgemuth, Lee E.. Research Eng., 532 S. Ridgeland Ave., Chicago, Ill.

BACHELOR OF SCIENCE

Brown, Cyrus O.....Attorney, Douglas, Wyo.
 Brown, James A., Attorney.....
Care Burr & Brown, Security Mutual Bldg., Lincoln, Neb.
 Dibble, Hattie (Stow).....Home Demonstrator, Vancouver, Wash.
 Hopkins, Mrs. C. G.1001 S. Wright St., Champaign, Ill.
 Luke, Fred K.....Farmer, R. F. D. No. 2, Kalispell, Mont.
 Parker, Fannie (Spooners)Brookings
 Sproul, Alex H., Director Com. Dept., High School of Commerce
584 E. 13th St., N. Portland, Ore.
 Tanzy, Marvin F.....Died Feb. 8, 1900, at Canton, S. D.
 Waters, Geo. D.Mgr. Gas Co., Parsons, Kans.
 Williams, Elinor (Knox)Phoenix, Arizona
 Young, Gilbert A., Head of School of Mech. Eng., Purdue Univ.
Lafayette, Ind.

Class of 1895

MASTER OF SCIENCE

McKenney, Duston W., Supervisor Manual Training.....
302 Lewis Ave., Billings, Mont.
 Schoppe, W. J. A.....Grain Buyer and Farmer, Putney
 Sproul, Alex H., Director Com. Dept., High School of Commerce
584 E. 13th., N. Portland, Ore.

BACHELOR OF SCIENCE

Allison, Wm. F.....Prof. of Civil Eng., U. of Wash., Seattle, Wash.
 Brown, SarahShannon City, Iowa
 Cornell, Harry M.....Real Estate, Mott, N. D.
 Mayland, Mabel (Merrick)Troy, Kan.
 Parker, Anna (Moore)Brookings
 Salisbury, Edith (Robertson) Care Y. M. C. A., 124 E. 28th St.,
New York, N. Y.
 Sevy, Isaac B.Teacher, Milton, Ore.
 Sproul, Wm. C., Sec'y Ingersoll Milling Machine Co.....
1751 Clinton St., Rockford, Ill.
 Thornber, John J.....Prof. of Botany, U. of Arizona, Tucson
 Wilcox, Ernest N.....Farmer, Thawville, Ill.

PHARMACY GRADUATES

Briggs, Elmer E.....Druggist, Muscoda, Wis.
 Knox, Wm. H.....With U. S. Dept. of Agr., Phoenix, Ariz.
 Lentz, Elmer A.....Dentist, Brookings

Murphy, Wm.Died July 5, 1896, at Brookings
 Whitehead, B. T.....Died April 1, 1917, at Brookings

Class of 1896

MASTER OF SCIENCE

Brown, James A., Attorney.....
Care Burr & Brown, Security Mutual Bldg., Lincoln, Neb.
 Luke, Fred K.....Farmer, R. F. D. No. 2, Kalispell, Mont.
 Robertson, Ada N.....Teacher, R. F. D. No. 225, Anaheim, Cal.
 Snell, Effie (Clark) ..400 E. 14th St., University Place, Lincoln, Neb.
 Wilcox, Ernest N.....Farmer, Thawville, Ill.

BACHELOR OF SCIENCE

Atkinson, Jesse C.....Farmer, Allegan, Mich.
 Carter, Louis W.....Register of Deeds, Highmore
 Dibble, Ida (Brown)
Care Burr & Brown, Security Mutual Bldg., Lincoln, Neb.
 Downing, Jennie C.....Tel. Mgr., Rathdrum, Idaho
 Grattan, Paul H.Hardware, Chatfield, Minn.
 Hegeman, Harry A.
Lieut. Col. Motor Transport Service, A. E. F., France
 Holm, Andrew B.....Farmer, Brookings
 Hoy, Howard H....Asso. Prof. of Phys. and Mech. Eng., S. D. S. C.
 Korstad, MaryBrookings
 Lusk, Willard C.Editor Yankton Press and Dakotan, Yankton
 Mathews, Alta (Smith).....Klamath Falls, Ore.
 Mathews, Nora (Hoy)Brookings
 Sasse, Ernest G.Physican, Lidgerwood, N. D.
 Williamson, AlbertAttorney, Kennebec

PHARMACY GRADUATES

Cotter, J. C.....Merchant, Dell Rapids
 Grove, EugenePhysician, Arlington, S. D.
 Moore, ThomasDruggist, Waterloo, Ia.
 Palmer, Horton.....Druggist, 426 S. Sycamore, St., Santa Ana, Cal.
 Sherwin, FrankMerchant, Willamina, Ore.

Class of 1897

MASTER OF SCIENCE

Davis, HomerPhysician, Genoa, Neb.

BACHELOR OF SCIENCE

Ainsworth, Cephas B.....Land, 406 Idaho St., Lewiston, Mont.
 Atkinson, George....Map Publisher, Gollier, Saskatchewan, Canada
 Atkinson, Walter....Civil Engineering, 632 W. 67th St., Chicago, Ill.
 Boyden, Frank E., Physician and Surgeon
116 Lewis St., Pendleton, Ore.

Clevenger, John W.Dentist, Chamberlain
 Hargis, Christie (Saylor)913 Douglas St., Des Moines, Iowa
 Hazle, Wm. A., Lieut. Col. 147th F. A., A. E. F.....
3000 E. 7th St., Long Beach, Calif
 Husted, Harley H.Died Jan. 14th, 1907, at Lincoln, Neb.
 Jolley, Wm. G.....Teacher, 5032 60th St. S. E., Portland, Ore.
 Madden, Kathryn (Crowley) Librarian and Stenographer, Chem-
 istry Library, 19133 Fremont Ave. S., Apt. 25, Minneapolis, Minn.
 Olson, EvaSupt. Schools, 221 4th Ave. N., South St. Paul, Minn.
 Parsons, Thos. S., Crop Specialist, Extension Division, U. of W.
 Laramie, Wyo.
 Roe, RobertStockman, Highmore
 Shuster John W., Asso. Prof. Elec. Eng., U. of Wisconsin, Madison
 Thornber, Walter S., Director Extension Work, Washington State
 College Pullman
 Walters, Wm. H.Real Estate, Brookings
 West, Orpha (Sevy)Milton, Ore.
 Whaley, Neva (Harding)Brookings
 Whitehead, Bower T.Died April 1, 1917, at Brookings
 Wilcox, Alice (Remsburg)Thawville, Ill.
 Work, Lloyd E.....Bond Salesman, 10 S. La Salle St., Chicago, Ill.
 Young, Grace (Bullen).....260 Jessup St., Portland, Ore.

Class of 1898

MASTER OF SCIENCE

Chilcott, E. C., Agronomist in charge of Dry Land Agriculture,
Washington, D. C.
 Harkins, Lilla A., Home Demonstration Agent.....
516 Wait Building, Decatur, Ill.
 Parsons, Thos. S., Crop Specialist, Extension Division, U. of W.
 Laramie, Wyo.

BACHELOR OF SCIENCE

Ainsworth, Howard, Fruit Grower
R. F. D. No. 17, Mountain View, Cal
 Ainsworth, Flora (Hazle)3000 E. 7th St., Long Beach, Cal
 Barton, Alice (White)....R. F. D. No. 7, Box 25D, Santa Ana, Cal.
 Beck, LouisEngineer, Anaheim, Calif.
 Bolles, Myrick N.Farmer, Brookings
 Curtiss, Elsie (Crane)Kettle Falls, Wash.
 Davidson, Margaret (Crane)..Teacher, 2917 18th St., Spokane, Wash.
 Fjerestad, Hans C.Bank Cashier, Egan
 Harding, Charles J.Teacher, Carpenter, S. D.
 Hegeman, Maude (Boyden)116 Lewis St., Pendleton, Ore.
 Hegeman, Mabel (Allison)Univ. of Wash., Seattle, Wash.
 Hodgeson, Herbert H....Top. Eng., U. S. Geol. Survey, Linden, Md.
 Knox, Wm. H.....With U. S. Dept. of Agr., Phoenix, Ariz.

Lawrence, Claude W.....Farmer, Sequim, Wash.
 Lawrence, ClayLawrence, Pioneer Bldg., Seattle, Wash.
 Loveland, Addie (Towne)....2104 Penn. Ave. S., Minneapolis, Minn.
 Paddock, Jay M.Died Dec. 16, 1916, at Eugene, Ore.
 Riemann, Edith (Adams)Sparkill, N. Y.
 Thornber, Wm. T.Farmer, Coleman
 Towne, Judson, Teacher Physics, E. Side H. S.....
2104 Penn. Ave. S., Minneapolis, Minn.

PHARMACY GRADUATES

Beebe, Jay L.
 ..Physician and Surgeon, First Natl. Bank Bldg., Anaheim, Cal.
 Clevenger, J. W.Dentist, Chamberlain
 Holsey, JosephDruggist, Veblen
 Lee, Berton E.....Accountant, 104 S. 4th St., Mankato, Minn.

Class of 1899

MASTER OF SCIENCE

Dibble, Hattie (Stow).Home Demonstration Agent, Vancouver, Wash.
 Mathews, Hubert B., Acting Dean of Faculty and Prof of Physics
S. D. S. C.
 Thornber, Walter S., Director Extension Work, Washington State
 CollegePullman
 Whitten, John C.....Prof. of Pomology, U. of California, Berkeley

BACHELOR OF SCIENCE

Colegrove, Ina (Nelson).....11 Haviland St., Worcester, Mass.
 Findeis, PhilipLumber Merchant, Miranda
 Lawrence, Mary M., Head of Home Welfare Division, Dept. of
 Extension, U. of TexasHouston
 Lawrence, Captain W. H.....Army Hospital No. 2, Denver, Colo.
 Mason, Nellie (Mason)Albia, Iowa
 Nachtigal, IsaacSupt. Schools, Climbing Hill, Iowa
 Sherwin, Howard H.
Civil Engineer, 781 Eastern Parkway, Brooklyn, N. Y.
 Walter, Edith (Fystrom).....Died May 16, 1910, at Geneseo, N. D.
 West, GeorgePhysician, Armstrong, Iowa

PHARMACY GRADUATES

Carr, GeorgeDruggist, Bison
 Crowley, D. C.....Druggist, 487 Hayes St., San Francisco, Cal.
 Hepner, Frank.....Asst. Chemist, U. of Wyoming, Laramie
 Kendall, Clinton D.Druggist, Brookings
 Lindsey, CharlesFarmer and Banker, Regan, N. D.
 Oulton, FrankAbstractor, Choteau, Mont.
 Shriver, E. M.....Real Estate, Coos Bay, North Bend, Ore.
 Taylor, C. DeWitt

Class of 1900

BACHELOR OF SCIENCE

Allen, Hart M.Druggist, Hotel Trow, Sacramento, Calif.
 Anderson, Clark W.Died March 6, 1902, at Brookings
 Beebe, Jay L.
 ..Physician and Surgeon, First Natl. Bank Bldg., Anaheim, Cal.
 Carlson, Esther (Lilygreen).....701 Magnolia St., St. Paul, Minn.
 Carlson, Ella (Howard)Lake Preston
 Davies, Sara (Sherwin)781 Eastern Parkway, Brooklyn, N. Y.
 Davies, Mary (Hutchins)Fall City, Neb.
 DeLa, John W.Editor Drake News, Drake, N. D.
 Doughty, Mattison W.

Civil Engineer with Delaware & Lackawanna Ry., Hoboken, N. J.
 Grove, Frank W.Dentist, Delta, Colo.
 Harza, Carl. Supt. of Meter Insts., 18 Washington Blvd., Detroit, Mich.
 Kendall, Clinton D.Druggist, Brookings
 Lawrence, Jessie (Hagerman)R. 1, Auburn, Wash.
 Mathews, Alice (Albright)Black Eagle, Mont.
 Mathews, Roscoe A.Lumber and Coal, Dutton, Mont.
 Morrison, Freda (Cole)...Home Demonstration Agent, Philip, S. D.
 Olson, Gustava (Hodgeson)Linden, Md.
 Williams, Callie (Olson)116 N. Summit Ave., Sioux Falls

PHARMACY GRADUATES

Bentley, Wm. S...Major, Medical Corps, 147th F. A., A. E. F., France
 Brosseau, Jesse E.Physician and Surgeon, Frankfort
 Baldwin, Corwin B.
Druggist and Member State Board of Pharmacy, Rapid City
 Connell, John C.Druggist, Luverne, Minn.
 Else, Earl...Physician and Surgeon, Broadway Bldg., Portland, Ore.
 Eckhart, HenryDied at Menno, S. D.
 George, WilliamPhysician and Surgeon, Selby
 Hart, BertrandPhysician and Surgeon, Onida
 Jones, RobertDruggist, Madison
 West, Hugh H.Physician and Surgeon, Spurling Bldg., Elgin, Ill.

Class of 1901

MASTER OF SCIENCE

Knox, Wm. H.With U. S. Dept. of Agr., Phoenix, Ariz.
 Whitehead, Bower T.Died April 1, 1917, at Brookings

BACHELOR OF SCIENCE

Bagley, Sussana..Teacher, 3012 Ezekiel St., Lake Co., Zion City, Ill.
 Bolles, Laura Jane.....Science Instructor, Stevens Point, Wis.
 Brosseau, Jesse E.Physician, Frankfort
 Boyd, Mary (Labbutt).....3921 Davis St., Sioux City, Iowa
 Cranston, Margaret (Young)..Died June 7th, 1907, at Oakes, N. D.

Culhane, Michael E.....	Culhane Adjustment Co., Brookings
Davies, Autumn, Instructor in Political Science, H. S.....	
.....	1009 S. 30th Ave., Omaha, Neb.
Dodge, Fred E.....	Hotel Manager, Redfield
Else, Earl...Physician and Surgeon, Broadway Bldg., Portland, Ore.	
Enos, Winifred (Kendall)	Brookings
Erickson, Martin L.....	Forestry Service, Medford, Ore.
Evans, Lina (Roskie).. ..	Brookings
Fishback, Myra (Kennedy)....	62 Mechuo Bazaar St., Calcutta, India
Harza, LeRoy F.....	Civil Engineer, Jacksonville, Fla.
Hatton, John H.....	Forestry Service, Forestry Bldg., Denver, Colo.
Johnson, Rhoda (Lee).....	Died Oct. 18, 1909, Denver, Colo.
Kendall, Leonard J.....	Telegraph Operator, Brookings
Kennedy, C. Leroy, Fruit Raiser, R. F. D. No. 18, Mountain View, Cal.	
Langdon, Lillian (Culhane)	Brookings
McElmurry, Loretta	
.....	Instructor Domestic Science, State Normal, Madison, S. D.
Mork, Theodore	Farmer, Des Lacs, N. D.
Phillips, Florence (Haas)	Arlington
Phillips, C. Louise, Librarian, U. S. Dept. Agr.....	
.....	1343 Clifton St., Washington, D. C.

PHARMACY GRADUATES

Cornell, Edward, Pharmacist	
.....	1824 Lyndale Ave. S., Minneapolis, Minn.
Tidball, Clyde	Druggist, Brookings

Class of 1902

BACHELOR OF SCIENCE

Fleming, Michael..City Mgr., M. A. Hanna Coal Co., St. Paul, Minn.	
George, William A.....	Physician and Surgeon, Selby
Hart, Bertrand M.....	Physician and Surgeon, Onida
Hepner, Frank E....	Asst. Station Chemist, U. of Wyoming, Laramie
Johnson, Clara (Johnson)	Brookings
Johnson, Edward.....	Died May 1, 1907, Tacoma, Wash.
Kephart, George..City Attorney, 421 Iowa Building, Sioux City, Iowa	
Lee, Berton E.....	Accountant, 104 S. 4th St., Mankato, Minn.
Ramsey, Henry J., Expert, in Fruit Storage, Bureau Plant In-	
dustry.....	718 Allison St., Washington, D. C.
Roskie, Geo.	Abstractor, Brookings
Thornber, Edith (Cuckow)	La Junta, Colo.
Trooien, Ole N.	Died at Brookings, Dec. 21, 1915
Winegar, Laura	Stenographer, Sioux Falls

PHARMACY GRADUATES

Allison, Wm. F.....	Prof. of Civil Eng., U. of Wash., Seattle, Wash.
Boyden, Frank E.	

.....Physician and Surgeon, 116 Lewis St., Pendleton, Ore.
 Christianson, BernettDruggist, Volga
 Hayter, McPhersonDruggist, Artesian
 Jarratt, Arthur A.Druggist, Colman
 Jarvis, S. HallDruggist, Faulkton
 Leighty, James A.Druggist, Winfred
 Morton, Frederic M.Druggist and Postmaster, Lake City
 Pickles, Chester E.Farmer, Elrod
 Schnaidt, Henry
Druggist and President State Board of Pharmacy, Parkston
 Schroeder, Anna (Gassman)Howard
 Thomas, John C.Druggist, Marion

Class of 1903

MASTER OF SCIENCE

Crane, Austin B., Drainage Specialist, States Relation Service..
N. 4303 Lincon St., Spokane, Wash.
 Hoy, Howard H.Asso. Prof. of Phys. and Mech. Eng., S. D. S. C.

BACHELOR OF SCIENCE

Almond, Fred C.Died March 12th, 1909, at Clear Lake
 Cole, John S., Examiner of Dry Land Agr. Exp. Stations, Dept.
 of Agr.Washington, D. C.
 Colegrove, Lettie (Drew)Ft. Douglas, Utah
 Cuckow, Fred W.Lawyer, La Junta, Colo.
 Hubbard, Minnie (Holbein)Minot, N. D.
 Johnson, IsaacLumberman, Brookings
 Kendall, Krete (Miller)Brookings
 Langdon, Alice, Stenographer
1343 Clifton St., N. W., Washington, D. C.
 Miller, Shirley P.Professor Zoology, S. D. S. C.
 Norton, Frank A.Fruit Grower, Grand View, Wash.
 Otterness, Jens M., Private Secretary to Senator Sterling.....
441 Senate Office Bldg., Washington, D. C.
 Peirce, E. EstherTeacher, Billings, Mont.
 Sanborn, Ethel I..Instructor in Botany, University of Oregon, Eugene
 Seide, Louise (Prell)Calamus, Iowa
 Sarvis, Roscoe J.Telephone Engineer, Aberdeen
 Webster, James L.Farmer, Wenatchee, Wash.
 Westcott, Geo. R., Asst. Engr., Mo. Pac. Ry.
5764 Goodfellow Ave., St. Louis, Mo.

PHARMACY GRADUATES

Drew, Arthur W.Physician and Surgeon, Ft. Douglas, Utah
 Hall, Roy J.Druggist, Oldham
 Heston, Edward C.Physician and Surgeon, Roslyn, Wash.
 Hollister, Arthur R.Traveling Salesman, Madison

Howell, John E.....Chemist, S. P. R. R., Houston, Texas
 Johnston, SamuelDruggist, Hazel
 Norton, Frank A.....Fruit Grower, Grand View, Wash.
 Steiner, Frederick W., Physician, 323 Union Ave., Havre de Grace, Md.
 Trumm, Robert E.Druggist, Hayti
 Van Dusen, Fred J.Lead
 Williams, Percy.....Physician and Surgeon, Los Angeles, Cal.
 Young, Alfred J.....Farmer, Adanac, Saskatchewan

Class of 1904

MASTER OF SCIENCE

Trooien, Ole N.....Died at Brookings, Dec. 21, 1915

BACHELOR OF SCIENCE

Binford, Wm. W.....Lumberman, Greenleaf, Idaho
 Bushnell, Maude (Kelton)Poynette, Wis.
 Loucks, Anna Y. (Brown)Brookings
 Mattice, Albert F.Physician and Surgeon, Seattle, Wash.
 McGarry, Lawrence R.Salesman, Brookings
 Ruth, Thomas H.Veterinary Surgeon, DeSmet
 Sanderson, Everett G.Farmer, Aurora
 Sherwin, Ralph L.....Civil Engineer, Bay Harbor, Fla
 Smith, Wm. J.....Missionary, Damaguete, P. I.
 Thompson, ClarenceFarmer, Dell Rapids
 Walter, L. Erving.....Asst. State Chemist, Laramie, Wyo.

PHARMACY GRADUATES

Anderson, ErnestDruggist, Watertown, S. D.
 Dillon, CorneliusDruggist, Hotel Smede Bldg., Eugene, Ore.
 Frick, Harry E.Candy Manufacturer, Mitchell
 Goodale, Alton R., Druggist, Angeles Pharm.....
520 W. 9th St., Los Angeles, Cal.
 Hooker, HenryPhysician, Danville, Ill.
 Koch, Arthur E.....Attorney, 621 Ford Bldg., Detroit, Mich.
 Ramsdell, Leonard C.Druggist, Custer
 Thompson, Gotfried.....Physician and Surgeon, Sioux Falls
 Weisflock, TheodoreDruggist, Frankfort

Class of 1905

MASTER OF SCIENCE

Hepner, FrankAsst. Chemist, U. of Wyoming, Laramie
 Norton, Frank A.....Fruit Grower, Grand View, Wash.
 Phillips, C. Louise, Librarian, U. S. Dept. Agr.....
1343 Clifton St., Washington, D. C.
 Thompson, ClarenceFarmer, Dell Rapids
 Walter, L. ErvingAsst. State Chemist, Laramie, Wyo.

BACHELOR OF SCIENCE

Boyden, Guy L.....	Physician and Surgeon, Pendleton, Ore.
Chappell, Bessie	Instr. State Normal, Las Vegas, N. Mex.
Chappell, Elsie (Wilson)	Brookings
Davis, Clifford W.....	Farmer, 2337 Grant St., Berkeley, Cal.
Elliott, Roy K.....	Electrician, 20 Bay State Ave., Somerville, Mass.
Fassett, Della (Loucks)	Watertown
Fishback, Van Dusen	Loans, Brookings
Forrest, Victor E., Contractor, 202 Com. Ex. Bldg., Minneapolis, Minn.	
Fulkerson, Vincent.....	Special Agent, Dept. of Agr., Fallon, Nev.
Grove, Mary (Potter).....	Jackson Ave., Fountain City, Tenn.
Hage, C. F.	Druggist, Toronto
Howg, Edwin M., Physician and Surgeon, Mayo Clinic, Rochester, Minn.	
Jensen, Lewis N.....	Special Agent U. S. Dept. Agr., Amarillo, Texas
Johnson, Carl L.....	Elec. Eng., 26 Livingston Ave., Pittsfield, Mass.
Mathews, Harry E.....	Railway Service, Las Vegas, Nevada
Miller, Ralph L.	Lumberman, Melville, N. D.
Murphy, Matt W.....	Lawyer, 408 8th Ave. S., Fargo, N. D.
Nelson, John Harland, Structural Engineer,	
.....	11 Haviland St., Worcester, Mass.
Ronning, Oscar E.	Supt. Schools, Leola, S. D.
Schaphorst, Wm. F., Technical Writer.....	
.....	411 St. John's Place, New York City
Seeger, Adolph M.....	Elec. Eng., Light & Power Co., Toledo, O.
Slocum, Ina S. (Deeley)....	2818 Granville St., S. Vancouver, B. C.
Thogerson, Arthur A...Contractor, 3502 ½ Morrison St., Portland, Ore.	
Walters, Daisy	Teacher, Bruce
Williams, Harry, Real Estate	
.....	L. A. Investment Bldg., Los Angeles, Cal.
Williams, Percy, Physician and Surgeon.....	Los Angeles, Cal.

PHARMACY GRADUATES

Fjerestad, Carl	Druggist, Elkton
Howg, Edwin M., Physician and Surgeon, Mayo Clinic, Rochester, Minn.	
Larson, Lars P.....	Teacher, R. 5, Howard
Mathews, Harry E.	Railway Service, Las Vegas, Nevada
McCurdy, Walter	Banker, Lane
Morton, Grant J., Federal Drug Ins., 105 Custom House, Portland, Ore.	
Pottinger, Geo.	Druggist, Valley Springs
Thompson, Clarence	Farmer, Dell Rapids
Volin, Porter	Physician and Surgeon, Lennox

Class of 1906**BACHELOR OF SCIENCE**

Aldrich, G. Malcolm, Prin. Calhoun Schools.....	Hopkins
Barrett, J. Wylie	Electrical Engineer, Plankinton
Bonesteel, Bee (Dillman)	Mandan, N. D.

Brownell, Ellen (Wellington).....R. F. D., Calipatria, Cal.
 Burghardt, Roy D.....Electrician, 1007 1st Ave., Seattle, Wash.
 Carpenter, Abbie (Challmers)....E. 1121 Nora Ave, Spokane, Wash.
 Chilcott, Ellery F., District Supt. Dry Land Experiment Stations,
Woodward, Okla.
 Collier, Fred A., Physician, 658 West Jefferson St., Los Angeles, Calif.
 Davies, Gladys (Grace).....Akron, Colo.
 Erstad, Alfred J., President Standard Mach. Co.....
55 1st St., Cor. Pine St., Portland, Ore.
 Evans, Edna (Craig)Spokane, Wash.
 Grace, Oliver.....Supt. U. S. Ex. Sta., Akron, Colo.
 Kennard, Frank L.....Agronomy, Extension Work, Colfax, Wash.
 Knox, Arthur H.....Farmer, Alpena
 Koch, Arthur E.....Lawyer, 621 Ford Bldg., Detroit, Mich.
 Moffatt, Margaret E.Teacher, Bruce
 Reich, Rose M.Dietitian, 1707 Main St., LaCrosse, Wis.
 Thornber, Jessie B....Instructor Home Economics, Ashton, Idaho
 Youngberg, Guy E...Chemist, 24 High St., Buffalo Uni., Buffalo, N. Y.

PHARMACY GRADUATES

Allison, HaroldPhysician and Surgeon, Heppner, Ore
 Bergeim, Olaf, Asst. in Chem., Jefferson Med. College.....
10th and Walnut Sts., Philadelphia, Pa.
 Davies, Gladys (Grace).....Akron, Colo.
 Harben, Bartlett L.....Died June 10, 1912, at Winner, S. D.
 Holm, A. B.....Farmer, Brookings
 Locke, Chas.....Acting Professor of Pharmacy, S. D. S. C.
 Wipf, Michael J.....Druggist, Alsen, N. D.

Class of 1907

MASTER OF SCIENCE

Culhane, Michael E.....Culhane Adjustment Co., Brookings

BACHELOR OF SCIENCE

Binnewies, Mabel (Shanley).....Brookings
 Briggs, Stephen F., of Briggs & Stratton Co.....
258 Milwaukee St., Milwaukee, Wis.
 Burch, Walter S., Elec. Engr., with Rochester Railway & Light
 Co.....81 S. Fitzhugh St., Rochester, N. Y.
 Christianson, Christine (Buck).....1644 Adams St., Denver, Colo.
 Dillman, Arthur C.....Special Agent, Dept. of Agr., Mandan, N. D.
 Dutcher, R. Adams....Prof. of Agr. Chem., U. of Minn., Minneapolis
 Elliott, Bruce A.....Died at Brookings, Oct. 29, 1917
 Elliott, Ross W., Manual Training Teacher.....
406 Lincoln St., Hibbing, Minn.
 Fjerestad, AlmanElectrical Engineer, Estelline
 Gagel, Gerald.....Citrus Fruit Grower, Rialto, Cal.
 Hofstetter, Geo., Instructor Manual Training.....

.....	707 W. Spruce St., Missoula, Mont.
Kirk, John R.	Farmer, Springfield
Johnson, Aaron G., Plant Pathologist, U. of Wis.....	
.....	1517 Chadbourne Ave., Madison, Wis
Knutson, Mabel (Trooien).....	County Supt., Brookings
McCordic, Clare	Farmer, Pendroy, Mont.
McElmurry, Rilla (Eells).....	129 Wellendorf Ave., Youngstown, O.
Morton, Grant J..	Fed. Drug. Ins., 105 Custom House, Portland, Ore.
Reich, J. Carl, Supt. of Labor, Firestone Tire and Rubber Co..	
.....	Akron, Ohio
Salmon, Cecil, Prof. Agronomy, Kansas Agr. College.....	
.....	1630 Leavenworth, Manhattan
Sanderson, Eugene, Telephone Power Plant Engineer.....	
.....	56 Woodward Ave., South Norwalk, Conn.
Tuttle, Volney J., General Electric Co., D. C. Eng. Dept.....	
.....	Schenectady, N. Y.
Underwood, Genevieve (Schmidt).....	Bryant
Westcott, Ruth M. (Johnson)..	1517 Chadbourne Ave., Madison, Wis.
Work, Mary L.....	Stenographer, 1442 E. 59th St., Chicago

PHARMACY GRADUATES

Dexter, David F.....	Druggist, Canton
Roney, Ray W.	Druggist, Chester
Ennis, Herbert I.....	Druggist, Volga
Kartrude, Inga M.....	Teacher, Hardwick, Minn.

Class of 1908

MASTER OF SCIENCE

Coller, Fred A., Physician, 658 W. Jefferson St., Los Angeles, Calif.	
Koch, Arthur E.....	Attorney, 621 Ford Bldg., Detroit, Mich.

ELECTRICAL ENGINEER

Elliott, Ross W.....	Manual Training, 406 Lincoln St., Hibbing, Minn.
----------------------	--

BACHELOR OF SCIENCE

Alton, Benjamin H., Physician and Surgeon.....	
.....	72 Pearl St., Worcester, Mass.
Bergeim, Olaf, Asst. in Chem., Jefferson Med. Col., Philadelphia, Pa.	
Carpenter, Clarence A.	Electrical Engineer, Rapid City
Chilcott, Ralph	Farmer, Vienna, Va.
Cooley, William R.....	Assemblyman, Stockman, Springfield
Griffith, T. Edwin.....	Captain, Air Service, East Norfolk, Mass.
Holsey, Ernest.....	Elec. Eng., Y. M. C. A. Bldg., Spokane, Wash.
Hubbart, Edith J.....	Asst. Librarian, S. D. S. C.
Hyde, Hallie W.....	Inst. Dom. Sci., U. of Idaho, Moscow
Kelly, Amy	Inst. Dom. Sci., U. of Idaho, Boise
Kendall, Nellie G.....	Instructor in English, S. D. S. C.
Locke, Francis J., Electrical Engineer.....	

-363 S. 5th Ave., Mount Vernon, N. Y.
 Mathews, Oscar R.Expert Dry Land Agr., Newell
 Mayland, AmyDied Feb. 17, 1909, at Lincoln, Neb.
 Mayland, George R.....Co. Agr. Agt., Alexandria
 Nelson, Aaron L., Electrical Engineer.....
10½ Gillespie St., Schenectady, N. Y.
 Nilsson, Edward, Artist, Capital Engraving Co.....
1019 S. 5th St., Springfield, Ill.
 Olberg, Fred C.....Druggist, 5407 Ballard Ave., Seattle, Wash.
 Perry, Wiliam J., Electrical Engineer.....
3218 Summer St., West Philadelphia, Pa.
 Soreng, Edgar M., Electrician, with Briggs-Stratton Co.....
Stratford Arms Hotel, Milwaukee, Wis.
 Sperb, John J.....Civil Eng., Ocean Falls, B. C., Canada
 Ulrich, Darwin William.....Farmer, Alma, Wis.
 Underwood, Beatrice.....Teacher, Watertown
 Underwood, Loto (White) Brooklyn Botanical Gardens.....
Brooklyn, N. Y.
 Week, Gordon A., Electrical Engineer, 711 Post St., San Francisco, Cal.
 West, Florence E.....Teacher, Hill Top Farm, Rhinebeck, N. Y.
 Whitehead, Lindsey W.....Instructor Civ. Eng., State College, Pa.
 Williams, Ruby (Heil)Long Beach, Calif.

PHARMACY GRADUATES

- Hoch, Joseph L.....Druggist, Tyndall
 Murphy, James P., Capt. 36th Inf. U. S. A., Camp Devins, Ayer, Mass.
 Olberg, Fred C.....Druggist, 5407 Ballard Ave., Seattle, Wash.
 Quiggle, Ernest J.....Pharmacist, Groton

Class of 1909

MASTER OF SCIENCE

- Mathews, Oscar R.....Expert Dry Land Agr., Newell

ELECTRICAL ENGINEER

- Elliott, Bruce A.....Died at Brookings, Oct. 29, 1917
 Schaphorst, Wm., Technical Writer.....
411 St. Johns Place, New York City

BACHELOR OF SCIENCE

- Bacon, Eva (Paulson)Castlewood
 Bushnell, Edna (Lindahl)Brookings
 Camp, FredFarmer, Winfred, Mont.
 Catlett, Winfred (Swering).....430 Delaware Ave., Buffalo, N. Y.
 Champlin, Manley.....Asso. Prof. of Agronomy, S. D. S. C.
 Clarke, RoyChicago, Ill.
 Coughlin, Chas., Gen. Mgr., Ladish Drop Forge Co.....
583 Stowell Ave., Milwaukee, Wis.
 Denhart, CecilGrain Dealer, White

Erwin, Ada	Home Eco., Ex. Dept., Idaho Falls, Idaho
Evans, Iva (Morrison)	Brookings
Furnstahl, John	Died Dec. 16, 1916, at Ajo, Arizona
Jensen, Harvey..	Captain 2nd Infantry, U. S. A., Camp Dodge, Iowa
Jones, Robert	Lawyer, Milbank
Kremer, Alvin	Cashier, U. S. Natl. Bank, Portland, Ore
Lane, Lloyd	Farmer, Beresford
McKeown, Ralph	Farmer, Sentinel Butte, N. D.
Marquis, Sidney, Electrical Engineer	
.....	With Briggs & Stratton Co., Milwaukee, Wis
Matheney, Chester, Electric. Eng., Sales Mgr.....	
.....	565 Washington Blvd., Chicago, Ill.
Odland, John	Farmer, Sentinel Butte, N. D.
Palm, Ellen (Olson)	Norden
Peirce, Ruth, Music Student	
.....	4419 N. Racine Ave., 2nd Apt., Chicago, Ill.
Philips, Geo.....	Adviser of Men, S. D. S. C
Sarvis, Johnson	Special Agent, Dept. of Agr., Mandan, N. D.
Sperb, Frank	Civil Engr., Woodburn, Ore.
Swering, Joe, Sales Manager, Westinghouse Mfg. Co.....	
.....	430 Delaware Ave., Buffalo, N. Y.
Treacy, Timothy, Catholic Priest	
.....	487 Mich. Ave. S. E., Washington, D. C.
Vernlund, Carl, Physician and Surgeon	
.....	80 Main St., Hartford, Conn.
White, Orland, Botanist, Brooklyn Botanical Gardens, Brooklyn, N. Y.	
Wickre, Jacob	Assemblyman and Farmer, Langford
Wright, Mary (Dutcher).....	2194 Hendon Ave., Minneapolis

PHARMACY GRADUATES

Abbott, Guy S.	Druggist, Yale
Buck, Ervin	Druggist, Wessington Springs
Crosby, LeRoy	Pharmacist, Hitchcock
Dickey, James	Druggist, Iroquois
Hage, Christian	Druggist, Toronto
Wilson, Frank M.	Druggist, Ronan, Mont.
Youngberg, Guy E., Prof. of Chemistry, University of Buffalo..	
.....	Buffalo, N. Y.

Class of 1910

MASTER OF SCIENCE

Alton, Benjamin H., Physician and Surgeon.....	
.....	72 Pearl St., Worcester, Mass.
Dutcher, R. Adams....	Prof. of Agr. Chem., U. of Minn., Minneapolis
Youngberg, Guy E., Prof. of Chemistry, University of Buffalo..	
.....	Buffalo, N. Y.

MECHANICAL ENGINEERING

Hofstetter, GeorgeInstr. in Manual Training, Missoula, Mont.

BACHELOR OF SCIENCE

Atkinson, FayFarmer, Coal Harbor, N. D.
 Barber, Floyd....Civil Engineer, Care Co. Engineer, Everett, Wash.
 Biggar, Howard H.....U. S. Dept. of Agr., Washington, D. C.
 Crothers, Harold, Inst. in Elec. Eng., U. of Wisconsin, Madison, Wis.
 Crothers, RalphFarmer, Badger
 Fickle, WalterDied Jan. 26, 1911, at Blunt
 Fridley, Ray..First Lieut. Co. B, 350th Infantry, A. P. O. 795, A. E. F.
 Grotta, EdwinImplement Dealer, Esmond
 Johnson, Charles.....Hardware Merchant, Hetland
 Johnson, Milla (Anderson)...Died Nov., 1918, at New England, S. D.
 Kartrudge, IngaTeacher, Hardwick, Minn.
 Kelly, T. B.....Prof. of Music, State Normal, Fremont, Neb.
 Lothrop, Elmer.....Electrical Engineer, Redfield
 Lloyd, RobertElec. Contr., Santa Ana, Cal
 Matheny, Allie (Woledge)105 7th St. S. E., Minot, N. D.
 Matheny, Fred....Civil Eng., 2004 L. C. Smith Bldg., Seattle, Wash.
 Morrison, JosephFarmer, Elbon
 Nagel, Herman, Research Chemist, with Douglas Starch Co....

.....Cedar Rapids, Ia.
 Ort, A. A., Civil Engineer
Care Chief Eng., Miami Conservancy District, Dayton, Ohio
 Palm, AndrewCounty Agricultural Agent, Watertown
 Sexauer, ElmerGrain, Brookings
 Sheldon, Nettie (Atkinson)Coal Harbor, N. D.
 Wahl, Walker W.....Real Estate and Live Stock, Rosebud, Mont.
 Welch, Cecile (Sexauer)Brookings
 Wohlheter, VerneAttorney, White
 Yocom, FrankInst. in Manual Training, Holtville, Cal.

PHARMACY GRADUATES

Brown, Geo. B.Farmer, Clark
 Goldthorp, GeorgeDruggist, Conde
 Morrison, JosephFarmer, Elbon
 Williams, ArthurPharmacist, Aberdeen

Class of 1911**MASTER OF SCIENCE**

Sarvis, Johnson.....Special Agent, Dept. of Agr., Mandan, N. D.
 White, Orland..Botanist, Brooklyn Botanical Gardens, Brooklyn, N. Y.

BACHELOR OF SCIENCE

Balmat, JohnCivil Engineer, Yankton, S. D.
 Catlett, Marguerite.....Instructor Home Economics, Rapid City

Coolege, Leslie.....	Asst. Prof. Bacteriology, East Lansing, Mich.
Cottingham, Jay	Cashier, Colorado Springs, Colo.
Erwin, Ruth (Bibby)	Madison, S. D.
Finley, Vollmar.....	County Agricultural Agent, Brookings
Fridley, Bess (Fromme)	Blacksburg, Va.
Fridley, Richard.....	Died Aug. 23, 1912, at Lake Benton, Minn.
Fromme, Fred, Prof. of Bot., Va. Inst. of Technology, Blacksburg, Va.	
Gropengieser, Fred.....	Died December 15, 1918, at Onida, S. D.
Haas, Carrier (Quinn)	Badger
Hallen, Harold	Electrical Engineer, Ord, Neb.
Huntemer, Percy	Co. Agr. Agt., Melrose, Minn.
Jarman, Maebell.....	Instr. Home Economics, Aberdeen
Johnson, Clifford	Died September, 1912, at Huron
Knutson, Geneva (Flittie)	Brookings
Ladd, Amy, Care Nurses Quarters, Base Hosp.	
.....	Camp Upton, Long Island
Mathewson, Lynn.....	Mech. Eng., Tripp
McMillan, Orville	Supt. City Schools, McLaughlin
Meharg, Max	Inst. Man. Training, Wells, Nevada
Mitchell, Harry, Elec. Eng., 2933 Girard Ave. S., Minneapolis, Minn.	
Odland, Ole M., Theological Student, Luther Seminary, St. Paul, Minn.	
Peterson, Helen	Brookings
Plocker, Florence (Shelden).....	Perdue, Sask., Canada
Quinn, Roy	Farmer, Badger, S. D.
Randall, Frank	Mech. Engr., Aberdeen
Sherwin, Muriel (Stoll)	Brookings
Starring, Cecil....	Asst. in Hort., Mont. Agr. College, Bozeman, Mont.
Swenehart, John	Co. Agr. Agt., Crandon, Wis.
Throop, Lotta (Odland)	Sentinel Butte, N. D.
Tinker, Mabel	Brookings
Wilson, R. O., Prof. Business Education, Mont. State Col.....	
.....	Bozeman, Mont.

PHARMACY GRADUATES

Fellows, Carl	Druggist, Plankinton
Martin, Earl S.	Merchant, Oldham
Serles, Earl	Prof. of Pharmacy, S. D. S. C.
Shea, Henry	State Chemist, Helena, Mont.
Vis, Heyme	Druggist, Midland

.. Class of 1912

BACHELOR OF SCIENCE

Atwood, Geo. B.....	Veterinarian, Arlington
Bibby, Irwin J.....	Co. Emer. Agt., Madison
Bisbey, Guy R.....	Asst. in Botany, U. of Minnesota, Minneapolis
Dachtler, Fred J.....	Farmer, Sturgis
Edson, Ray W.....	Ist. Lieut. 309 Eng., A. E. F., A. P. O. 701

Erdmann, Henry E...Instructor Agr. Economics, U. of Ohio, Columbus
 Granger, Paul F....Civ. Eng. 426 Almond Ave., Long Beach, Calif.
 Hathaway, Floyd C.....Co. Agr. Agt., Grafton, N. D.
 Jensen, Russell C.Co. Emer. Agt., Canton, S. D.
 Kremer, Henrietta (Furnstahl)Ajo, Ariz.
 Larson, John.....Seedsman, Portland Seed Co., Portland, Ore.
 Marchant, Guy B....Elec. Engr., 323 W. 23rd St., New York City
 Oakland, Irwin S.....Dentist, Iroquois
 Peck, Arthur R.....Elec. Engr., Schenectady, N. Y.
 Pence, Clay....Elec. Salesman, 826 Ramsey Ave., Wilsonburg, Penn.
 Reeve, John E.....Elec. Engr., 125 Benedict Road, Pittsfield, Mass.
 Revell, Grace (Bailey)Brookings
 Sauder, Wm. O.....County Agr. Agt., Center, Colo.
 Schaphorst, BenLawyer, Brookings
 Skinner, Lila.....Inst. in Home Economics, U. of Ohio, Columbus
 Sparks, HenryCivil Engineer, Mitchell
 Stearns, Arthur J.....Proprietor Garage, Buhl, Idaho
 Welker, Verne E., Elec. Engr., 2875 Irving Ave. S., Minneapolis, Minn.

PHARMACY GRADUATES

Bacon, HarryDruggist, Edgemont
 Christianson, Helen (Quinn)Badger
 Clark, Robt. W.....Died in Sioux Falls, March 26, 1916
 Farnham, BeatriceDruggist, Waubay
 Farrar, VerePharmacist, Aberdeen
 Grant, ClydePharmacist, Lead
 Holstrom, WillDied in Service
 Holleman, WilliamPharmacist, Springfield
 Leavitt, EthelPharmacist, Milbank
 Morton, RichardPharmacist, Brookings
 Serles, RaymondPharmacist, Salem

Class of 1913

BACHELOR OF SCIENCE

Basgen, FredStructural Engineer, Watertown
 Binnewies, Edward R.Assistant Prof. of Chem., S. D. S. C.
 Brigham, RuthBrinklow, Md.
 Cole, Glenn H.....Farmer, Gary, S. D.
 Dunn, Everett W. ..District Engineer, 3810 Peters Ave., Sioux City
 Engstrom, Carl, Supt. Hutchinson Division, Northern States
 Power Co.Hutchinson, Minn.
 Faulkner, HughFarmer, Burkmere
 Fowlds, MatthewAsst. in Agronomy, S. D. S. C.
 Freiberg, GeorgeMo. Bot. Gardens, St. Louis, Mo.
 Greenly, Maurice G., Sci. Teacher, 1036 Green St., Honolulu, Hawaii
 Gurslee, Chris B., Dentist
1636 Marshall Field Annex, Chicago, Ill.

Heiser, Agnes K. (Yunker)	Barnard
Huyck, Nina B.	Dom. Sci. Dem., Rupert, Idaho
King, Stanley	Civil Engineer, Watertown
Kremer, Ralph C.	Mining Eng., Ajo, Ariz
Landweer, Earl, Meter Supt., Northern States Power Co., Sioux Falls	
McHugh, Frank James	Farmer, West Point, Miss.
Matheney, Hazel A.	Teacher, Conde
Morrow, Strayer (Sauder)	Center, Colo.
Morrison, Guy E., Live Stock Expert, Extension Division, S. D. S. C.	
Nilsson, Anna (Patterson)	Henning, Minn.
Nord, Roy A.	Lawyer, Huron
Olson, Thos. G.	Elec. Eng., Canby, Minn.
Pier, Clarence L., Ice Manufacturer	
.....	302 Market Bank Building, Minneapolis
Rilling, Harry M.	Co. Agr. Agt., Wessington Springs
Sanderson, Harry M.	County Agr. Agent., Philip
Shanley, Clarence	Dairy Inspector, Brookings
Shea, Henry	State Chemist, Helena, Mont.
Shepard, Helen (Atwood)	Arlington
Sloan, Edith, Demonstrator Home Economics, Extension Division	
.....	Aberdeen
Somers, Grace, Instructor Home Economics	
.....	School of Agriculture, S. D. S. C.
Sponholz, Lydia (Britzius)	Madison
Templeton, Mabel (Johnson)	Hetland
Wood, Ruth A.	Inst. Home Economics, Caldwell, Idaho

Class of 1914

PHARMACY GRADUATES

Eidsmoe, Clark T.	Sisseton
Johnson, Arthur F.	Druggist, Forest River, N. D.
Lawler, Frank M.	Pharmacist, with L. T. Dunning Co., Sioux Falls
Null, Ralph L.	Pharmacist, Wessington Springs
Simpson, Wm. R.	Pharmacist, Flandreau
Soule, Roy H.	Druggist, Farmer
Tommersaasen, Corne	Pharmacist, Madison
Wornson, Walter A.	Physican and Surgeon, Hartford, Wis.

BACHELOR OF SCIENCE

Armstrong, Lillian (Kirlin)	1811 2nd Ave. S., Minneapolis, Minn.
Armstrong, Inez, Instructor in Home Economics	
.....	Washington Agr. College, Pullman
Ausman, Leslie V.	Farmer, Wessington Springs
Britzius, Arno	Farmer, Madison
Bushey, Alfred	Co. Emer. Agt., Plankinton
Casley, Lulu	High School Instructor, Bryant
Chappell, Vincent.	Prof. Dairy Mfg., Oregon Agr. Col., Corvallis

Clifford, Perry	Farmer, Cresbard
Dulitz, Helen.....	Teacher, Wallace, Idaho
Elliott, Robert, Chemist U. S. Food Laboratory	
.....	1212 W. 77th St., Seattle, Wash.
Gilbertson, Geo.	Asst. in Entomology, S. D. S. C.
Gotthold, Roy	Manual Training, Brookings
Grinols, Hazel (Palm)...	Home Economics Demonstrator, Watertown
Gropengieser, Bessie	Teacher, Onida
Halladay, Clinton.....	Construction Eng., Box 578, St. Joseph, Mo.
Hartgering, Francis, Inst. History.....	
.....	Baxter and Brushton St., Pittsburgh, Pa.
Hegdahl, Paul	Farmer, Madison
Heck, Emil, Engineer of Tests.....	
.....	U. S. Forestry Products Lab., Madison, Wis.
Hofstetttter, Clarence	Lieut. in U. S. Army
Knutson, Charlie O.	Electrician, Canby, Minn.
Legler, Edward V..Elec. Eng., 306 Campbell Ave., Schenectady, N. Y.	
Luebke, Esther (Gaffy)	Pierre
Persun, Francis J. E.....	County Emergency Agent, Faulkton
Sexauer, Laura.....	Student, 2 Short St., Boston, Mass.
Shepard, Albert D.....	Chemist, Union Powder Co., Tarlin, N. J.
Slightam, Kate	Instructor in Home Economics, Kalispell, Mont.
Sherwood, Reginald	Asst. State Chemist, Bozeman, Mont.
Sloan, Sam	Farmer, Brookings
Somers, Ruth (Haugen).....	Brookings
Valentine, Vey	Stockman, Moenville
White, Henry D.....	Co. Agr. Agent., Ft. Pierre
Wilkins, Scott..Asst. in Farm Crops, Iowa State College, Ames, Iowa	
Wood, Nina (Sloan)	Brookings
Wills, Ernest V..Electrical Engr., Care Pierce-Arrow Co., Chicago, Ill.	

PHARMACY GRADUATES

Eng, Julius	Pharmacist, Bruce
Kadinger, Lewis	Pharmacist, Peever
McDougal, Tyrell	Britton
Nelson, Lewis.....	Medical Student, U. of M., Minneapolis, Minn.
Ray, Winifred	Druggist, Aurora
Shaw, Albert J.....	Pharmacist, Miller
Sivertson, Anna	Pharmacist, Box 14, Chehalis, Wash.

Class of 1915

MASTER OF SCIENCE

Binnewies, Edward R.....	Assistant Prof. of Chem., S. D. S. C.
Mayland, George R.....	Co. Agr. Agt., Alexandria
Shea, Henry	State Chemist, Helena
Sherwood, Reginald	Assistant State Chemist, Bozeman, Mont.
Sloan, Sam	Farmer, Brookings

BACHELOR OF SCIENCE

Bolland, Jens	Farmer, Pierpont
Caldwell, Florence (Heck), c/o Forestry Products Lab. Madison, Wis.	
Caldwell, Lacey	Farmer, Wells, Minn.
Clarke, Bruce	Captain, U. S. A., Camp Dodge, Iowa
Cooley, Hazel (Keddie)	Bear Lake, Minn.
Culhane, Alexander	Butter Maker, Brookings
Culhane, James	Elec. Engineer, Brookings
Drury, Lillian	Secretary, Chamberlain
Freeman, John	Died March, 1919 at Rapid City
Gardner, Harry	Co. Agr. Agt., Sturgis
Gilbert, Gladys (Ortmayer)	McAllister, Mont.
Graham, William B.	Farmer, Freeport, Minn.
Hale, Ruth (White)	Arena, Wis.
Iverson, Carrold	Supt. St. Joire Agricultural School, France
Johnson, Carl J.	Civil Engineer, Brookings
Jones, A. Patti	Teacher, Whitewood
Keck, Dallas	Co. Emer. Agt., Yankton
Kremer, Frank	Lawyer, Watertown
Lanphier, Ira	Civil Engineer, Milbank
Lynch, Arthur	Dairyman, East Berkshire, Vt.
Nixon, Jessie	Teacher, St. Paris, Ohio
Nord, Florence....	Nurse, Base Hosp. No. 1, Ft. Sam Houston, Tex.
Pilmer, Miller..	Electrical Engineer, 1106 School St., Des Moines, Ia.
Potter, Ernest C.	Student, Princeton, N. J.
Serles, Earl	Prof. of Pharmacy, S. D. S. C.
Wornson, Walter.....	Physician and Surgeon, Hartford, Wis

PHARMACY GRADUATES

Abbott, Walter G.....	Pharmacist, Tyndall
Clark, Bruce E.	Captain U. S. A., Camp Dodge, Iowa
Colliton, Ora A.....	Pharmacist, 586 Laurel Ave., St. Paul, Minn.
Giannonatti, Elene	Pharmacist, Ludlow
Haugen, Martin Bernhard	Pharmacist, Hartford
Little, Guy Almond	Druggist, Brandt
Loesch, William Patrick	Druggist, Oldham
Olson, Edward Furness	Pharmacist, Alcester
Randall, Harry Eugene	Pharmacist, Arlington
Tolagson, Clarence Ferrold	Pharmacist, Brookings

Class of 1916**MASTER OF SCIENCE**

Bolland, Jens	Farmer, Pierpont
Gilbertson, Geo. L.	Asst. in Entomology, S. D. S. C
Loomis, Howard	Asst. in Agronomy, S. D. S. C.
Morrison, Joseph	Farmer, Elbow
Rilling, Harry M.....	Co. Agr. Agt., Wessington Springs

Sherwood, Reginald.....Assistant State Chemist, Bozeman, Mont.

BACHELOR OF SCIENCE

Abbott, Cleveland,Lieut., A. E. F., Watertown
 Allison, ArthurLieut., A. E. F., Brookings
 Anderson, Georgia.....Instr. Home Economics
 Austin, EthelP. G. Student, Columbia University, New York
 Avery, Blanche (Johnston).....Hot Springs
 Bergeim, Jos.....Principal High School, Elkton
 Caldwell, Kate (Weber)..Instr. Home Ec., School of Agr., S. D. S. C.
 Calkins, FredA. E. F., Miller
 Chapman, Daphne (Serles).....Registrar, S. D. S. C.
 Fish, Warren D.Mechanical Engineer, Ipswich
 Dawes, Adelia (Miller)

.....Tulane University, Station 20, New Orleans, La.

Dott, DeliaSalem
 Evers, Clarence....Capt. U. S. A., 3501 Corondelet, New Orleans, La.
 Fish, Warren D.....Mechanical Engineer, Ipswich
 Fridley, Harry, Graduate Student.....

.....214 Dreyden Road, Cornell University, Ithaca, N. Y.

Fryer, JuliaStudent U. of Minnesota, Minneapolis
 Gold, RalphElectrician, Big Stone
 Greene, Bernice (Gardner)Sturgis
 Greeves, Bertha (Rudd)Miller
 Grudem, William....Elec. Eng., Care G. E. C., Schenectady, N. Y.
 Hanten, MattFarmer, Watertown
 Heiser, MarieTeacher, White
 Humphrey, FrancisFarmer, Carthage
 Jerlow, MorrisCarthage
 Johnston, Ralph E.....County Agr., Agent, Hot Springs
 Kennard, Geo.....Co. Emer. Agt., Sioux Falls
 Knutson, Robt.Farmer, Brookings
 Lanphier, Eva (Muessing)Welcome, Minn.
 Laxson, LeroyBank Clerk, Waubay
 Lynch, Edw.Dairyman, Mitchell
 Lynch, RuthInstr. in Home Economics, Pierre
 Matson, Mamie.....Instructor, Wessington Springs
 Miller, Harold, Medical Student, Tulane University.....

.....Station 20, New Orleans, La.

Mills, Erma DavisBrookings
 Nelson, Lewis E., Medical Student.....

.....1011 6th St. S. E., Minneapolis, Minn.

Peterson, HaroldFarmer, Newport Center, Vt.
 Rishoi, AlfredDairy Inspector, Brookings
 Rowe, Chas.....Chemist, Riverside Club, Penns Grove, New Jersey
 Rowe, Nellie, P. G. Student, Columbia University.....

..Box 327 Whittier Hall, 1230 Amsterdam Ave., New York City

Schlatter, Chas. F.....Prof. of Commercial Science, S. D. S. C.
 Sheehan, Bernard F.....Instr. in Agronomy, Ore. Agr. Col., Corvallis
 Slaatta, EmmaInstr. in Home Economics, Sisseton
 Sloan, JanetInstr. in English, Huron
 Smith, Homer.....County Agricultural Agent, Rapid City
 Waltner, Benj. P.....Aux. Remount Depot, Camp Dodge, Ia.
 Warner, HarryAssistant in Soils, Iowa State College, Ames
 Weber, Geo.Captain U. S. A., A. E. F., France
 Wing, Leshner,Electrician, Beulah, Wyo.

PHARMACY GRADUATES

Anderson, A. EdwardPharmacist, Dell Rapids
 Burton, StarlingA. E. F., Yankton
 Corkhill, CliffordDruggist, Hurley
 Hemingway, Robt. W.A. E. F., Mattoon, Wis.
 Langdon, Hazel (Nelson)
1011 6th St. S. E., Minneapolis, Minn.
 Lenocker, Paul, Druggist, Charge Prescription Department Owl
 Pharmacy161 Miles Ave., Huntington Park, Calif.
 Peterson, Edw.....Pharmacist, LeMars, Iowa
 Rasmussen, Ethel....Student, Pharmacy Dept., U. of M., Minneapolis
 Tabor, FloydPharmacist, Mitchell

Class of 1917

MASTER OF SCIENCE

Lynch, Arthur D.....Creamery Manager, East Berkshire, Vt.
 Serles, EarlProf. of Pharmacy, S. D. S. C.
 Whitehead, Lindsey W.....Instructor Civ. Eng., State College, Pa.

BACHELOR OF SCIENCE

Ainsworth, Ernest C..With Blue Valley Creamery Co., Springfield, Ill.
 Anderson, Eldon C.....Co. Emer. Agt, Pierre
 Anderson, O. LeonCo. Agr. Agt., Miller
 Bennett, Lyle L., Hospital School, U. S. Naval Training Station
 Los Angeles, Calif.
 Browning, Lenore.....Instr. Modern Languages, Mandan, N. D.
 Cunningham, Ray C., Lieut., Instructor Military Science, U. of M.
 Minneapolis
 Dakin, NormanAsst. in Dairying, S. D. S. C.
 DeGreef, Chas. W.Teacher, Lidgerwood, N. D.
 Doughty, Walter E.Farmer, White
 Evans, Roy L.Eng., A. E. F., Brookings
 Furnish, Alta KlareTeacher, Miles City, Mont.
 Glennon, Daniel C.Huron
 Gregory, Eva (Hill)Alexandria
 Heiser, ElizabethTeacher, White
 Hill, JoeFarmer, Alexandria

Holliday, Faye E.	Instr. in Home Economics, Arlington
Jennings, Hollace H.	A. E. F., Brookings
Johnson, Ralph J.	A. E. F., Hetland
Jones, Horace M.	P. G. Student, S. D. S. C.
Karlstad, Chas. H.	Major, A. E. F., Dempster
Keating, Pearl	Instr. in Man. Training, Big Stone
Kopperud, Harmon	Lake Preston
Lanphier, Harriet	Home Demonstration Agent, Brookings
Lee, Vera M.	Instr. in Home Economics, Neola, Ia
McCoy, Dell H.	A. E. F., Miller
Malone, Robert S.	A. E. F., Huron
Miller, Henry J.	Electrical Engineer, West Lynn, Mass.
Mills, Omer	Farmer, Wall
Morgan, Della	Farmer, Armour, S. D.
Langdon, Hazel (Nelson)	1011 6th St. S. E., Minneapolis
Nickerson, Mary S.	Pharmacist, Mill City, Ore.
Nord, Daisy	Instr. in English, Fedora
Peterson, Axel	County Agricultural Agent, Onida
Rudd, Chas.	Lieut. in Military Service, Miller
Chappell, Mabel (Safford)	Aberdeen
Severson, Florence (Ashbaugh)	Stenographer
	1514 17 St. N. W., Washington, D. C.
Shaw, Happy	Instr. in Home Economics, Anamoose, N. D.
Sherwood, Aubrey	Editor Kingsbury County News, DeSmet
Skinner, Cecil	Died March 13, 1919, at Bruce
Smith, Harry A.	Electrical Engineer, Miller
Stoddart, Mattie M.	Assistant in Zoology, S. D. S. C.
Swenehart, Millie (Carley)	R. No. 2, Portland, Ohio
Swift, Eugene	A. E. F., Brookings
Wagner, Colman H.	Co. Agr. Agt., Selby
Waltner, Adolph L.	Farmer, Freeman
Waltner, Caroline A.	
	Instr. Home Economics, Freeman Academy, Freeman
Wattson, Donald A.	Farmer, Chamberlain, S. D.
Westgate, Louis A.	Instr. in Agr. Sutherland, Ia.
Winright, Geo.	County Emergency Agent, Salem
Ziegler, Arlene	P. G. Student, 215 6th Ave. N, Nashville, Tenn.

PHARMACY GRADUATES

Bissell, Wm. E.	Druggist, Plankinton
Dahl, Clarence A.	Langford
Ford, Lucile	Pharmacist, Irene
Holzman, Arthur J.	Pharmacist, Marvin
Nickerson, Mary S.	Pharmacist, Mill City, Ore.
Overturf, Wm. M.	Pharmacist, Doland
Rottluff, Karl	Pharmacist, Sioux Falls
Sanders, B. Harry	Pharmacist, Garretson

Thompson, Albert M.Bruce
Walpole, Robert E.Pharmacist, Hurley

Class of 1918

BACHELOR OF SCIENCE

Ahlers, Naomi.....Instructor in Home Economics, Andover
Berlind, AxelDied November 8, 1918, in France
Blakely, Clifford.....County Agricultural Agent, White River
Boswell, Mildred (Ames)..Instructor in Home Economics, Castlewood
Caldwell, Jessie.....Instructor in Home Economics, Miller
Clark, Esther, Instr. in Home Economics, State Normal.....

.....Valley City, N. D.
Crofoot, VanitaInstructor in Home Economics, Parker
Dewing, Sara.....Instructor in Home Economics, Lyons, Neb.
Dokter, Garrett.....County Agricultural Agent, Britton
Evans, Marguerite.....61 E. Garrison St., Bethlehem, Pa.
Frease, Hazel, Instructor in Home Economics.....

.....461 Pitzer St., Roseburg, Ore.
Gilbert, Chas. J.....County Agricultural Agent, Faulkton
Goddard, BertinPostal Employee, Hot Springs
Gretschmann, AnnaTeacher, Springfield
Grinols, Mavis.....Instructor in Home Economics, Watertown
Grinols, Violet.....Instructor in Mathematics and Physics, Elkton
Hanson, Hazel.....Instructor in Mathematics, Gregory
Hewett, HowardFarmer, Arlington
Holliday, LloydFarmer, Brookings
Hoon, GlennFarmer, Kadoka
Hoover, Harold.....Assistant in Dairying, S. D. S. C.
Hyde, G. HaraFarmer, Manila, S. D.
Hutchinson, Ethel (Cunningham) Care Military Dept., U. of M.

.....Minneapolis
Hyde, LloydFirst Nat'l. Bank, 1736 Humboldt St., Denver, Colo
Johnson, IraFarmer, Miller
King, Gladys....P. G. Student, 999 Van Slyke Ave., St. Paul, Minn.
Laird, Walter S.....Electrical Engineer, Salem
Layson, Stanley V.Farmer, Nisland
Lothrop, OrlinElectrical Engineer, Redfield
McFadden, EdgarAgr. Exp. Station, Highmore
Miller, Arthur, Asst. Farm Management Demonstration, Extension

Dept.S. D. S. C.
Mills, OscarFarmer, Wall
Pickett, H. HubbieCivil Engineer, Brookings
Pier, LeonoraWoonsocket
Randall, Elizabeth, Instructor in Home Economics, Washtucna, Wash.
Reid, Phyllis.....Instructor in Home Economics, Brookings
Revell, JamesDied January 23, 1918, at Brookings

Rilling, Elsie	Brookings
Riis, Jens	Creamery Operator, Castlewood
Simons, Stella	Castlewood
Stevens, Florence..	Instructor in Home Economics, Chilliwack, B. C.
Styer, Clarence.....	Civil Engineer, Seattle, Wash.
Tompkins, Arthur	County Agricultural Agent, Hayti
Urton, J. Raymond	Farmer, Fulton
Ustrud, Ida (White)	Fort Pierre
Voss, Edward F.....	Supt. City School, Doland
Webb, Grace.....	Instructor in Home Economics, Belle Fourche

PHARMACY GRADUATES

Bittner, Albert.....	Pharmacist, Brookings
Nielsen, H. Arthur	Pharmacist, Rapid City
Roos, John.....	Student, S. D. S. C.
Sletten, Anthony	Died February, 1919, in U. S. Service
Trumm, Archie	Pharmacist, Hayti
Wilson, Bliss	Student, S. D. S. C.

Student List

Note: In the student list the asterisk, (*), indicates that the student belonged to the Students Army Training Corps, (S. A. T. C.) The following abbreviations are used. G. S. for General Science, H. E. for Home Economics, C. E. for Civil Engineering, M. E. for Mechanical Engineering, E. E. for Electrical Engineering.

1918-1919

POST-GRADUATES

Gates, Edgar	Agriculture	Brookings
Hoover, Harold	Agriculture	Brookings
Jones, Horace	Agriculture	Mitchell
Sherwood, R. C.	Pharmacy	Brookings

SENIORS

Aldrich, Dorothy	G. S.	Big Stone
Atkinson, Ray	G. S.	Brookings
Bacon, Lulu	H. E.	Gettysburg
Batien, Anna	H. E.	Clark
Bentley, Norma	G. S.	Rapid City
Bergeim, Frank	G. S.	Brookings
Bickel, Eva	H. E.	Watertown
Brown, Cecil	Agriculture	Brookings
*Browning, Albert	Agriculture	Belvidere, Ill.
Bryant, Gladys	H. E.	Andover
Bulger, Jacob	Agriculture	White
Clark, Gladys	H. E.	Wessington Springs
Collinge, Verne	Agriculture	Selway, Mont.
Daniels, Blair	H. E.	Ipswich
*Faulkner, Drew	C. E.	Burkmere
Giere, Verne	G. S.	Watertown
Green, Carrol	G. S.	Brookings
Hast, Sidonia	H. E.	Bruce
Hogstad, Anton	G. S.	Philadelphia, Pa.
Hurlbert, Roy	Agriculture	Raymond
Hutton, Lynn	Agriculture	Egan
Johnson, Gustav	Agriculture	Lake Norden

Kirk, Louisa	H. E.	Springfield
McMillan, Mrs. Edith	G. S.	Brookings
Mathews, Hubert J.	G. S.	Leonia, N. J.
Millett, Helen	M. E.	Fort Pierre
Morton, Joy	H. E.	Brookings
Morris, Margery	H. E.	Ipswich
*Nelson, Edmond	Agriculture	Estelline
*Oertli, Ralph	Agriculture	Raymond, N. D.
Skiff, Hazel	G. S.	Brookings
Smith, Alida	H. E.	Clark
Somers, Esther	H. E.	Brookings
Randall, Pearl	H. E.	Brookings
Wilson, Bliss	G. S.	Frankfort
White, Helen	G. S.	Woonsocket
White, Malcolm	G. S.	Brookings
Wiles, Glenn	E. E.	Trent
Williams, Clayton	E. E.	Lake Preston
Wood, Laura	G. S.	Pingree, N. D.
Yeamans, Bessie	H. E.	Vienna

JUNIORS

Anderson, Alvia	H. E.	Brookings
Arneson, Anna	H. E.	Garretson
Atwater, Effie	H. E.	Redfield
Baker, Frances	H. E.	Brookings
Bergstresser, Grant	C. E.	Wentworth
Buck, Ruth H.	H. E.	Bruce
Caldwell, Genevieve	H. E.	Brookings
Campbell, Horace	Agriculture	Rochester, Minn.
Chappell, Genevieve	H. E.	Brookings
Chase, Elizabeth	G. S.	Brookings
Culhane, Charles	Agriculture	Brookings
Dalthorpe, Charles	G. S.	Volga
Day, Helen	H. E.	Clark
Doolittle, Edith	H. E.	Ipswich
*Faulkner, James	C. E.	Burkmere
Fryer, Florence	G. S.	Doland
Gilkerson, David	Agriculture	Armour
*Graves, Charles	Agriculture	Ashton
Hansen, Eva	H. E.	Brookings
Haynes, Grace	H. E.	Brookings
*Headley, John	G. S.	Menno
*Hermanson, Peter	G. S.	Tyler, Minn.
Huntmer, Marie	H. E.	Colton
Iverson, Bernard	Agriculture	Madison
Johnson, James	C. E.	Pierpont

Johnson, Oreat	H. E.	Brookings
Johnston, Helen	H. E.	Quinn
Keck, Myrtle	H. E.	Brookings
Metzger, Roy	Agriculture	Tyndall
Morrow, Madge	H. E.	Brookings
Munro, Carol	H. E.	Wilmot
Noonan, Genevieve	G. S.	Frankfort
Olson, Clarence	Agriculture	Brookings
*Peck, Clifford	Agriculture	Hazel
Peddicord, Susie	H. E.	Brookings
Reeves, Alta	H. E.	St. Lawrence
Robinson, Edna	H. E.	Redfield
Rohrbach, Grace	H. E.	Clark
*Roos, John	Pharmacy	Tulare
Sheldon, Rachel	H. E.	Brookings
Sloan, Grace	H. E.	Brookings
*Solberg, Harry	M. E.	Brookings
*Stumley, Alfred	Agriculture	Volga
Swift, Cecil	H. E.	Brookings
Tompkins, Blanch	H. E.	Brookings
Trenner, Ephriam	Agriculture	Cash
Vollmer, Louis	E. E.	Brentford
Walseth, Russell	Agriculture	Clear Lake
*Waters, Harley	E. E.	Wentworth

SOPHOMORES

Allison, Andrew	G. S.	Brookings
Allison, Ruth	H. E.	Sioux Falls
Anderson, Einar	G. S.	Brookings
Andrews, Worley	Pharmacy	Highmore
*Arndt, Herbert	E. E.	Leola
*Avery, Glenn	Agriculture	Alexandria
Bird, Charles	Pharmacy	Doland
*Boorman, William	G. S.	Howard
Borst, Evan	G. S.	Brookings
*Brown, Walter	G. S.	Walker, Mo.
Buck, Bonnie	H. E.	Bruce
Burge, Violet	G. S.	Castlewood
Burkhardt, Lyle	Agriculture	Dixon
Basart, Victor	Agriculture	DeSmet
Chase, Marcus	G. S.	Brookings
Christianson, Mabel	Pharmacy	Watertown
Cole, Olive	G. S.	Brookings
Connelly, Emma	Pharmacy	Browns Valley, Minn.
*Cornwell, Floyd	Pharmacy	Salem
Dakan, Hollis	E. E.	Stansberry, Mo.

Davis, Guy	G. S.	Brookings
*Davies, Ross	Agriculture	Lead
*DeBoer, Dewey	C. E.	Corsica
Dye, Emmett	C. E.	Richards
*Elliott, Warren	Pharmacy	Brookings
Erie, Frances	H. E.	Brookings
Evans, William	E. E.	Flandreau
Fairchild, Harry	Pharmacy	Bryant
*Fjerstad, Elmer	Pharmacy	Estelline
Fledt, Louise	H. E.	Milbank
Gilbertson, Gilbert	Agriculture	Brookings
Gould, Lillian	H. E.	Bryant
Griffith, Mibra	Agriculture	Cresbard
Handwerk, Gertrude	G. S.	Brookings
*Hallis, Kenneth		Salem
Harvey, Gertrude	H. E.	Pierre
*Hobbs, Oscar	E. E.	White Lake
Holm, Margry	G. S.	Webster
Hutchinson, Hazel	H. E.	Webster
Ice, Mrs. Fay	H. E.	St. Lawrence
Irish, Esther	G. S.	Brookings
Iverson, Selma	G. S.	Brookings
Janssen, George	Agriculture	Castlewood
*Johnson, Palmer L.	C. E.	Brookings
Knutson, Wilma	Pre-Nurse	Brookings
*Krause, Chester	G. S.	Flandreau
*Kurtz, William	C. E.	Bushnell
*Leavitt, Donald	C. E.	Worthing
*Lee, Erwin	G. S.	Sherman
Locke, Gladys	H. E.	Sherman
McKillop, Myrtle	G. S.	Canastota
*McLaren, Walter	G. S.	Flandreau
*Madsen, Mars	Pharmacy	Viborg
*Mann, Frank	E. E.	Brentford
Marshman, Grace	G. S.	Brookings
Merriman, Grace	H. E.	Brookings
*Metzger, Fred	Agriculture	Tyndall
Millett, Paul	Agriculture	Fort Pierre
*Nelson, Everett		Viborg
Nielsen, Nellie	Pharmacy	White Rock, Minn.
Nisbet, Pearl	G. S.	Britton
Olson, Angie	H. E.	Brookings
Paulson, Joseph	Agriculture	Brandt
Pepple, Erma	G. S.	Ipswich
Saltmarsh, Mae	G. S.	Miller
Saylor, Charles	Agriculture	Vivian

Sievers, George	C. E.	Wessington
Sloat, Ora	H. E.	Gettysburg
*Staley, James	Pharmacy	Clear Lake
Torrico, Mariano Paz	Agriculture	Cochabamba, Bolivia
*Towers Ralph	G. S.	Clear Lake
Turner, Verne	Pharmacy	Brookings
*Urton, Harold	Agriculture	Fulton
*Utterback, Ernest	Agriculture	Huron
*Vandenberg, Bert E.	M. E.	Volga
Vearrier, Gladys	G. S.	Virgil
Vera, Genearo	Agriculture	Cochabamba, Bolivia
Washburn, Ruby	G. S.	Reville
*Weber, Robert	Pharmacy	Aberdeen
Whitmus, Walter	G. S.	Brookings
Wooley, Alma	H. E.	Highmore
Ziegler, Pearl	H. E.	Brookings

FRESHMEN

*Albertson, Charles P.	Volga
*Allerdings, Harry E.	Selby
*Anderson, Harry A.	Platte
*Anderson, Henry	Erwin
*Appleman, Frank	Clear Lake
*Barber, Lake A.	Lane
*Barkuloo, Herbert	Waubay
*Bartlett, Frank	G. S. Chamberlain
*Bauman, Thern	Kimball
Becker, Florence	G. S. Waubay
*Bell, Arthur	Aberdeen
.Berdahl, Julian	Garretson
*Berven, Leander	Baltic
*Blais, Lester	Watertown
Boldes, Gustave	G. S. Webster
Boselly, Shirley	G. S. Brookings
Bosland, Chelcie	G. S. Waubay
*Bottom, Clark	Tulare
*Bouch, Leonard	Trent
Bricton, Abner	G. S. Brookings
Brinker, Charles	E. E. Madison
Brown, Esther	H. E. Volga
*Brudos, Ernest	G. S. Veblen
*Bruhn, Roy	Salem
*Burke, Allan	Rapid City
*Burns, Lisle	Agriculture Beresford
*Burns, Richard Shirley	Agriculture Beresford
*Byrum, Ralph	E. E. Onida

*Campbell, Wendell M.	.....	Lane
Carson, Donald	.....G. S.	Bradley
*Case, Harry J.	.....	Oldham
Christensen, Agnes	.....G. S.	Wilmot
*Clark, Charles L.	.....	Langford
*Cole, Dexter	.....E. E.	Brookings
*Cornell, Glenn	.....	Clear Lake
Cotherman, Robert	.....	White
*Cory, Frank	.....	Watertown
Coulter, Zaida	.....G. S.	Bruce
*Cranston, Lee	.....	Huron
*Culter, Jesse	.....	Athol
*Dahl, Hjalmer	.....	Toronto
*Dahl, Vernon	.....	Waubay
Danielson, Daisy	.....G. S.	Hendricks, Minn.
*Danielson, Harold	.....	Vilas
*Deacon, J. Hobart	.....	Alexandria
*Dettman, Clarence	.....	Howard
*Dooley, Maurice	.....	Ramona
*Dorothy, Lester	.....	Philip
Driver, Marian	.....G. S.	DeSmet
*Eastman, Charles	.....	Mobridge
*Emery, Dewey	.....E. E.	Sansarc
*English, Donald	.....	DeSmet
Enright, Philip	.....Agriculture	Brookings
Erickson, Ellen	.....G. S.	Coleman
*Erickson, Eric	.....G. S.	Trent
*Erickson, Vernon	.....Agriculture	Beresford
*Evenson, Roland	.....	Lanesboro, Minn.
*Fenn, Benjamin	.....	Brookings
*Fenner, Merritt	.....	Beadle
*Fleischman, E. Reynolds	.....G. S.	Oldham
*Forsburg, Elmer	.....	DeSmet
Forsee, Zeta	.....H. E.	Brookings
*Fosheim, Alvin	.....	Howard
*Frederickson, Howard	.....	Tyler, Minn.
*Fredine, David	.....	Platte
*French, Dewey	.....	Frankfort
*Frie, Forrest	.....	Estelline
Funk, Virgil	.....E. E.	Lake Preston
*Gentle, Archie	.....Pharmacy	Brookings
*Gerbig, Orville	.....	Webster
*Girton, Clifford	.....	Brookings
*Glood, Royal	.....	Viborg
*Godron, Paul	.....	White
*Graves, Lester	.....	Waubay

*Graves, Philip	Ashton
*Graves, Ren	Fulton
Groves, John	Agriculture Parkston
Gulander, Linda	G. S. Mitchell
*Hall, Floyd C	Meadow
*Hamilton, Claude	Sioux Falls
Hanse, Barbara	G. S. Webster
*Hanson, Albert	Sioux Falls
*Hanson, Arthur	Pharmacy Bristol
Hanson, Florence	G. S. Brookings
Hansen, Marie	H. E. Brookings
*Hanson, Milton	Castlewood
Hanson, Thelma	H. E. Brookings
*Happe, Clarence	Webster
*Harlow, Maurice	Redfield
*Harlan, Glenn	G. S. Bridgewater
*Haroldson, Robert	M. E. Brookings
*Hase, LeRoy	Redfield
*Hawkins, Harvey	E. E. Waubay
*Hepperle, Fred	E. E. Leola
Hermanson, Hazel	H. E. Tyler, Minn.
*Himmel, Harold	Esmond
*Hoffbeck, Roy	Agriculture Corona
*Holmes, Richard	Wilmot
*Hoover, Charles	Philip
*Hoover, Harley	Bradley
Horen, Azel	Cresbard
*Hoven, Albert	Selby
Huntemer, Lillian	Pre-Nurse Colton
*Hutton, Howard	Egan
*Ind, Walter	M. E. Sturgis
*Ivy, William F.	Onida
Jarman, Erie	G. S. Nowlin
Jarman, Ruby	H. E. Brookings
Johannesen, Clarence	Athol
*Johns, Joe	DeSmet
*Johnson, Carl	Hendricks, Minn.
*Johnson, Clifford	Brookings
*Johnson, Henning	Langford
*Johnson, Parker	G. S. Waubay
*Johnson, Roy	Watertown
*Johnson, Roy L.	DeSmet
*Jones, Otho	Agriculture Frankfort
*Kambak, Robert	Highmore
Keith, Florence	Pre-Nurse Brookings
*King, Fred	White

*King, Harold	Canning
Kingsley, Francesca	G. S. Spring Valley, Minn.
*Klix, Edward W.	Summit
*Knudsen, Sigurd	G. S. Carthage
*Koch, Cornelius	Isabelle
Kopland, David	Agriculture Brookings
Korstad, Elvin	M. E. Brookings
Koski, Edward	Spearfish
*Kurrasch, John	E. E. Peever
*LaBrie, Victor	Turton
*Larsen, Alden	Hills
*Larson, Lorraine V.	E. E. Lemmon
Lawson, Harold	Pharmacy Tulare
*Lawson, Noel	Aberdeen
Laxson, Oliver	Pharmacy Canton
*Lekvold, Alfred	Naples
*Lemmon, Robert	Pierpont
*Lommen, Edward	Sioux Falls
*Laudenslager, Joseph	Trent
Mallery, Esther	Pharmacy DeSmet
*Mannwarring, Walter	Huron
*Martin, Floyd	Northville
*Marske, Ernest	Andover
*Matson, Arthur	E. E. Brookings
*Matthews, F. Earl	C. E. Alexandria
*Medin, Floyd	Agriculture Twin Brooks
*Meeker, Eugene	Custer
*Merry, Lyman	Dell Rapids
Miller, Magdalene	H. E. Hudson
Molskness, Josie	H. E. Colman
*Monson, Harold	Sioux Falls
*Morriarty, Lester	Redfield
*Mullarky, Floyd	Waubay
*Mullarky, Thomas	Waubay
Murphy, Maude	G. S. Pierre
*Moulton, Wesley,	Cresbard
*McClosky, Keith	Northville
*McCoy, Ermond L.	Bismark, N. D.
*McCrady, Archie	Brookings
*McFarland, Lynn	Flandreau
*McNeil, John	Salem
*McRae, Bennett	Wingford
*Neises, Lawrence	Howard
Nelson, Carl	Sisseton
*Nelson, Carl J.	Viborg
*Nelson, Clarence	Ashton

*Nelson, Ralph G.	Terraville
Nielsen, Susie	Pharmacy Rapid City
*Niles, Clarence	Selby
*Norton, Clifford	Madison
*Nye, Neiel	M. E. Salem
Odland, Arthur	G. S. Hurley
*Olen, Melium E.	Orleans
Overseth, Oliver	Agriculture Canton
Palmer, Charles B.	E. E. White Lake
Parsons, Margery	H. E. Elkton
*Pate, Harry	Loogootee, Indiana
*Paulson, Andrew	Castlewood
Pearson, Gladys	Art Brookings
Peddicord, Helen	H. E. Brookings
*Perry, Louis W.	Highmore
*Phillips, George W.	Waubay
*Phillips, Samuel F.	Wentworth
*Pitts, Lysle	Ramona
*Poulson, Verne	Castlewood
*Prindle, Earl	Athol
*Pufahl, Alfred	Milbank
*Quail, Carl	Sinai
*Rasmussen, Cyrus	Viborg
Renwick, Margaret	G. S. DeSmet
*Riddle, Jesse	G. S. Waubay
Rice, Lella	G. S. Peever
Riley, Edna	Pharmacy Brookings
*Robertson, Russell	Alexandria
*Rodee, Floyd	Artesian
*Rooks, Roland	Lemmon
Rundell, Millie	G. S. Hurley
*Rundell, Merle	Hurley
*Runnings, James	Redfield
*Ryan, William J.	Bridgewater
*Sahs, Ernest	G. S. Salem
*Scully, Jesse	G. S. Brookings
*Schmidt, Clayton	Madison
*Schultz, Carl	Wessington Springs
*Schwartz, Ralph E.	Selby
*Sharp, Harold	Brookings
*Shaw, Robert	E. E. Hazel
*Smail, Andrew	Webster
*Smit, William	Corona
*Smith, Eugene	Spencer
*Smith, Fay	Madison
Solberg, Elizabeth	M. E. Brookings

Sorensen, Freida	G. S.	Castlewood
*Sorensen, John		St. Lawrence
*Sparks, Ralph		Huron
Spurling, Fred	Agriculture	Brookings
*Stevens, Floyd		Hecla
*Styles, Arnold		Brentwood
*Swanson, Carl		Hawarden, Iowa
Tehon, Olive	G. S.	Aladdin, Wyo.
Temte, Eva	H. E.	Flandreau
*Tjelle, Elmer		Langford
*Tompkins, Willis	Agriculture	Brookings
Tracey, James	Pharmacy	Webster
Turner, Zula	H. E.	Brookings
*Tyson, Horace		Brookings
*Vickerman, Fern	G. S.	Brookings
*Waldo, Marion		Hecla
*Wanke, Floyd	G. S.	Hartford
*Warner, Ross		Alexandria
*Wells, George D.	C. E.	Spencer
*Westphal, Glenn		Cresbard
*Whitman, Frank		Sioux Falls
*Wilhelm, Charles		Ashton
Willey, Claire	G. S.	Brookings
*Williams, Chester		Huron
*Winji, Floyd		Britton
*Wright, Lawrence		Clear Lake
*Zenner, Lynn		Wentworth
*—S. A. T. C.		

SPECIALS

Aney, Roy	Agriculture	Peever
Austin, Guy	Agriculture	Brookings
Bergstresser, Grant	C. E.	Wentworth
Bogstie, Emma	G. S.	Brookings
Douthitt, Maurice	G. S.	Big Stone City
Halverson, Harry	Agriculture	Brookings
Halverson, H. Lila	H. E.	Brandt
Hansen, R. P.	E. E.	Withee, Wis.
Hutchinson, Florice	H. E.	Webster
Jackson, Clark	E. E.	Dell Rapids
Kneebone, John	Agriculture	Hibbing, Minn.
Ladd, Leonard	Agriculture	Brookings
Locke, C. A.	Pharmacy	Brookings
Marshman, Charles	C. E.	Brookings
Pultz, Ella	G. S.	Brookings
Smith, Carleton	Agriculture	Storm Lake, Iowa
Valentine, George	Agriculture	White

Wilensky, Abraham	G. S.	Sioux City, Iowa
Wurster, Anne		LaFayette, Ind.

PREPARATORY

Fourth Year

Becker, Henry	Oldham
Blakslee, Charles	Brookings
Byrum, Oliver	Onida
Carlisle, Agnes	Laken Benton, Minn.
Clement, Fritz	Java
Erickson, Ellen	Colman
French, James	Colman
Halverson, Gerhard	Brandt
Hoon, Ruth	Cottonwood
Jensen, James	Erwin
Jones, Donald	White River
Little, Raymond	Hazel
Martin, Lester	Brookings
McCarthy, Clara	Rapid City
Mininger, Naomi	Guthrie, Okla.
Peters, Dorothy	Granville, Iowa
Vearrier, Maude	Virgil
Wedgewood, Jessie	Trent
Williams, Richard	Phillip

Third Year

Bickford, Louis	Brookings
Bickford, Vernus	Brookings
Holmberg, William	Watertown
Jeffries, Lawrence	Sansarc
Kapaum, Theodore	Brookings
Kuld, Pauline	Tyler, Minn.
Lindsay, James	Brookings
Phillips, Thomas	Flandreau
Richards, Earl	Brookings
Rufenacht, Grace	Brookings
Shea, Mrs. H. M.	Brookings
Slocum, Harold	Brookings
Starr, Rena	DeSmet
Twedt, Myrtle	Verdi, Minn.
Williams, Charles	Vale
Wilson, Vernice	Aurora

Second Year

Bogstie, Arthur	Brookings
Bottom, Carroll	Tulare
Felton, Mary	Bushnell
Englehorn, Alfred	Wagner

Hansen, Lowell	Viborg
Kapaun, Beryl	Brookings
Kirk, Katherine	Lake Norden, Minn.
Lawrence, Walter	McIntosh
Morgan, Robert	Ipswich
Nelson, Margaret	Viborg
Petherman, Harold	Wentworth
Powers, Howard	Brookings
Sharon, Otto	Kadoka
Solberg, Ruby	Brookings
Walker, Blanche	Brookings

First Year

Ahlers, Percy	Webster
Allen, Chester	Faulkton
Baker, Frances	White River
Barron, Leslie	White
Duflath, Arthur	Java
Ekberg, Lillie	Iron Mountain, Mich.
Felton, Dewey	Bushnell
Gilgore, Emily	Esmond
Gray, Mrs. E. H.	Buffalo
Green, David	Highmore
Holstrom, Paul	Howard
Hoffman, Walter	Madison
Jackson, Oscar	Turner, Mont.
Johnson, Clarence	Hammer
Johnson, Esther	Brookings
Johnson, Minerva	Hammer
Kjenslee, Lloyd	Brookings
Kugler, William	Ledgewood, N. D.
Larson, Ida	Volga
Lee, Julius	Rutland
Lein, Myrtle	Brookings
Lindland, Loyd	Brookings
Longwood, Walter	Cole
Longwood, William	Cole
Lunden, Millard	Brookings
Marion, Paul	Lindsay
Mulvig, Martha	Virgil
Norman, Rose	Brookings
Putman, Carl	Oahe
Raugust, Hulda	Emery
Rideout, Lillian	Pine City, Minn.
Stewart, Earl	Wentworth
Thompson, Alma	Brookings
Tilly, Anna	Hazel

Watkins, Vernon	Sturgis
Watson, Kenneth	Hurley

MUSIC

Aldrich, Dorothy	Big Stone City
Allison, Ruth	Sioux Falls
Alton, Frances	Brookings
Anderson, Thyra	Hetland
Arneson, Anna	Garretson
Barron, Leslie	White
Bartlett, Elsie	Brookings
Bartelt, Bernice	Brookings
Beals, Mrs. Dan	Brookings
Becker, Henry	Oldham
Benson, Reuben	Brookings
Bickford, Louis	Brookings
Bickford, Vernus	Brookings
Binnewies, Mrs. Ina	Brookings
Borgan, Mabel	Rice Lake, Wis.
Bosland, Chelcie	Waubay
Brackett, Richard	Brookings
Brewer, Ellen	DeSmet
Brown, Florence	Brookings
Buck, Bonnie	Bruce
Buck, Ruth Helen	Bruce
Calvert, Herbert	
Christensen, Agnes	Wilmot
Cohen, Mrs. S. L.	DeSmet
Cole, Dexter	Brookings
Cole, Russell	Brookings
Dahl, Henry	Winfred
Day, Helen	Clark
Dunbar, Gwendolen	Brookings
Erie, Frances	Brookings
Evans, William	Flandreau
Fedt, Anna	Bryant
Fishback, Mrs. Van D.	Brookings
Fleischman, E. R.	Oldham
Fledt, Louise	Milbank
Flittie, Mrs. Theo.	Brookings
Frayley, Earl	Volga
Fryer, Florence	Doland
Gates, Mary	Brookings
Gilgore, Emily	Esmond
Gulander, Linda	Mitchell
Halverson, H. Lila	Brandt

Hansen, Lowell	Viborg
Hansen, Marie	Brookings
Hargett, Audrey	Brookings
Hargett, Mary	Brookings
Haroldson, Gail	Brookings
Harris, Beatrice	Brookings
Harris, Katherine	Brookings
Hougen, Orpha	Brookings
Herman, Dorothy	Brookings
Hermanson, Hazel	Tyler, Minn.
Holm, Margry	Webster
Horton, Ralph	Volga
Hoy, Marguerite	Brookings
Hoy, Mildred	Brookings
Hume, Albert	Brookings
Hutchinson, Hazel	Webster
Innes, Ileen	Brookings
Jarman, Erie	Nowlin
Jeffries, Lawrence	Sansarc
Johnson, Ethel	Brookings
Johnson, Minerva	Hammer
Johnson, Tillie	St. Lawrence
Jones, Raymond	St. Lawrence
Keck, Myrtle	Brookings
Keith, Florence	Brookings
Kendall, Richard	Brookings
Kingsley, Francesca	Spring Valley, Minn.
Korstad, Elvin	Brookings
Kukler, William	Ledgewood, N. D.
Kurrasch, John H.	Peever
Larsen, Harold	Brookings
Larsen, Thorwald	Brookings
Lien, Esther	Brookings
McCarthy, Clara	Rapid City
McRae, Bennett	Winfred
Martin, Lois	Brookings
Miller, S. P.	Brookings
Millett, Helen	Fort Pierre
Millett, Paul	Fort Pierre
Miller, Magdalene	Hudson
Mitchell, Catherine	Brookings
Nelson, Alma	
Nelson, Margaret	Viborg
Nininger, Naomi	Guthrie, Okla.
Nisbet, Pearl	Britton
Norvold, Florence	

Olson, Angie	Brookings
Palmer, Charles B.	White Lake
Parsons, Margery	Elkton
Paul, Ruth	Webster
Paulson, Joseph	Brandt
Peddicord, Helen	Brookings
Peddicord, Susie	Brookings
Pearson, Gladys	Brookings
Peterson, Ella	Viborg
Petterman, Eva	
Pike, Daniel	Sioux Falls
Rice, Leila	Peever
Riley, Edna	Brookings
Rilling, Elsie	Brookings
Rodway, Christian	Hudson
Rowe, Bell	Brookings
Rude, Minnie	Brookings
Rundell, Millie	Hurley
Saltmarsh, Mae	Miller
Scarlett, Ethel	Brookings
Sellers, Mary	Mt. Vernon
Shea, Mrs. Vivian	Brookings
Skiff, Hazel	Brookings
Slocum, G. A.	Glenham
Smith, Duane	Brookings
Smith, Fay	Madison
Solberg, Ruby	Brookings
Stoll, Mrs. Muriel	Brookings
Stumley, Alfred	Volga
Temte, Eva	Flandreau
Thompson, Alma	Brookings
Tofte, Selmer	Brookings
Tompkins, Blanche	Brookings
Twedt, Myrtle	Verdi, Minn.
Vearrier, Gladys	Virgil
Vearrier, Maud	Virgil
Wanke, Floyd	Hartford
Wedgewood, Jessie	Trent
Weidebusch, Lena	Mansfield
Wiley, Claire	Brookings
Wing, Thelma	Brookings
Mast, Wallace	Brookings
Mast, William	Brookings
Odegard, Theodore	Brookings

SCHOOL OF AGRICULTURE

First Year

Name	Home Address
Allison, George	Volga
Anderson, William	Yankton
Bell, Walter	Rockham
Bentson, Albert	New Castle, Neb.
Bixler, Harry E.	Wakonda
Brandstedt, Frank	Alpena
Brock, Elvin H.	Hitchcock
Brown, Mabel	Yankton
Brumwell, Roy F.	Huron
Burbidge, Robert	Hazel
Butterfield, Ernest	Wessington Springs
Charlet, Mark	Volga
Chase, Almon	Brookings
Chester, Otto T.	Bruce
Chilman, Claes	Platte
Christenson, Clara	Arlington
Christensen, Vern	Burbank
Crooks, Violet	Crooks
Doner, Harold	Gorman
Duff, Edna	Brookings
Eidem, Samuel	Elk Point
Eklund, Edith	DeSmet
Estensen, Stanley	Sherman
Fedt, Anna	Bryant
Fosheim, Jacob	Bristol
Gigg, Frank M.	McClure
Granner, Gertrude	Estelline
Green, George C.	Hazel
Gunderson, Alfred	Havana, N. D.
Gunderson, Rosella	Havana, N. D.
Hannon, Tommie	Brookings
Hanson, Arthur H.	Elk Point
Hanson, Arthur M.	Brookings
Hanson, Edwin	Vermilion
Hansen, Isaiah	Mina
Harris, Richard	Winfred
Harris, Willard	Clark
Hast, Donald	Bruce
Hollingsworth, Philip	Woonsocket
Hollingsworth, Rufus	Woonsocket
Hustoft, Martin	Dell Rapids
Jahnig, Arthur	Britton
Johnson, Joseph	New Effington

Johnson, Tillie	Volin
Jones, Elden Lloyd	St. Lawrence
Joy, Archie	Midland
Kittleson, Esther J.	Henry
Kjolstad, Trygve	Watertown
Klandt, William	Menna
Knudson, Wilbert	DeSmet
Linn, Walter	Rockham
Loken, Theodore	Pierpont
Longman, Mabel	Brookings
Lucke, Glenn	Doland
Lund, Raymond	Wessington
Luther, Leonard A.	Armour
Marvin, Lucile	Brookings
Millard, Arthur A.	Yankton
Miner, Harlow	Carlock
Moen, Hogen S.	Hammer
Mulder, Egge	Altamont
Nessan, Amanda	Arlington
Nordmark, Ralph	Platte
Olen, Leonard F.	Orleans
Olsberg, Herbert	Lesterville
Orr, Harry T.	Wessington Springs
Palmer, Dan A.	Mina
Paterson, Chas.	DeSmet
Paul, Ruth M.	Webster
Pereboom, George	Burke
Peters, William	Granville, Iowa
Peterson, Charlie	Viborg
Pike, Daniel	Sioux Falls
Piper, Olie S.	Carpenter
Rasmussen, Carl E.	Lake Preston
Reinecke, Emerald	Beulah, Wyo.
Ring, Gladys	Henry
Robins, Rosswell	Bonilla
Rollag, Harold	Booge
Rusten, June	Beresford
Sayler, Marion F.	Vivian
Schaub, Sydney F.	DeSmet
Schreiber, Arnold	Agar
Schwartz, Hilbert F.	Canton
Scofield, Cecil	Wessington Springs
Scott, Maurice	Bruce
Sellers, Mary E.	Mt. Vernon
Smiley, Guy	Bunker
Snyder, Clarence	Kadoka

Spicer, Cecil	Wessington
Sutton, Calude	Agar
Taylor, Dewey	Parkston
Terney, Thomas	Baxter, Iowa
Thompson, Harold	Artesian
Thoreson, Philip	Sioux Falls
Tolstedt, Glen L.	Burke
Trotter, Joseph	Provo
Vinge, Julian	New Effington
Walker, Emmet	Kennebec
Westergaard, Eben	Viborg
Whiting, Ellsworth	Frankfort
Wiedebusch, Lena	Mansfield
Wieting, George	Hitchcock
Williamson, Waldemar	Baltic

Second Year

Allcott, Carroll	Reliance
Bates, John A.	Chelsea, Mass
Baxter, John	Hazel
Berg, John	Letcher
Bickel, William Everett	Elrod
Brock, Glen J.	Huron
Brown, D. E.	Bradley
Brown, Lawrence E.	Yankton
Christianson, Esther	Jasper, Minn.
Clipper, Carol L.	Lake Benton, Minn.
Clipper, Gordon J.	Lake Benton, Minn.
Crain, Clyde	Esmond
Dahl, Ellen	Winfred
Dahl, Henry	Winfred
Eklund, Harold	DeSmet
Ellis, Albert	Elrod
Erickson, Clarence	Montrose
Erickson, George V.	Montrose
Erickson, Harold E.	Salem
Feind, Ernest	Hazel
Fuller, Milo	Owanka
Green, Max	Hazel
Harris, George T.	Winfred
Hedeen, Clifford	Beresford
Hoime, Neva	Sherman
Hutton, Helma	Brookings
Jensen, Olga	Renner
Johnson, A. Wilfred	Volga
Keck, Almer	Brookings
Kittleson, Selma	Henry

Kleinsasser, Mathias	Frankfort
Kuehl, Gustav A.	Yale
Leach, Ralph	Ree Heights
Lindblom, Guy	Canova
Loen, Lauris	Howard
Meyer, Albert	Huron
Meyer, Edward	Cavour
Miller, Frank	Chelsea
Moen, Morris	New Effington
Nelson, Martha	Dell Rapids
Payne, Harley	Viborg
Peterson, Mabel A.	Renner
Pierce, Frank H.	Leola
Rohrbach, Glenn	Clark
Rude, Grace M.	Brookings
Rufsvold, John	Fladmoe
Sckerl, Herbert	Lake City
Sigdestad, Selmer	Bristol
Smith, Elsie (deceased Dec. 14, 1918).....	Carpenter
Spicer, Clarence	Wessington
Stearns, George	Canton
Stoneback, George W.	Harrisburg
Urben, Willie	Worthing
Wood, Ray M.	Worthing

Third Year

Beatty, Richard	Elrod
Bentley, Helen	Bryant
Crowell, Alfred	Brookings
Daker, Mildred	Houghton
DeReu, Ida	Sherman
Dybdahl, Lillian	Brookings
Hanson, Carl	Lily
Johnson, Vera M.	Balaton
Longman, Wilford	Toronto
Lundeen, Florence	Aurora
Markve, Carl	Ortley
Parcells, Mabel	Balaton
Peterson, Karl	Lily
Powers, Robert	Delmont
Rodway, Christian	Hudson
Rude, Cecelia	Brookings
Schmidt, Lilly	Alpena
Sloat, Fred	Gettysburg
Sloat, May	Gettysburg
Spicer, Lawrence	Wessington
Stitt, Lyle	Hitchcock

Stormo, James	Hazel
Ladd, Bessy	Brookings

Fourth Year

Aldrich, Merton	Big Stone City
Carlisle, Agnes	Lake Benton, Minn.
Carson, Charlotte	Bradley
Johnson, Eugene	Brookings
Johnson, Florence	Brookings
Keith, Mark	Ellingson
Moorhouse, Lorenda	Watertown
Nichols, Elva	Westbrook, Minn.
Piper, Albert	Carpenter
Walker, Harry	Tripp
Daker, Paul	Houghton

SUMMER SESSION**1918**

Name	Course	Home Address
Adams, Mabel	Summer	DeSmet
Allison, George	Summer	Volga
Anderson, Mildreth	Summer	Castlewood
Andrews, Maude	Summer	Highmore
Ash, Elnora	Summer	Garden City
Atkinson, Ray	Summer	Brookings
Baker, Alice M.	Summer	Carpenter
Baker, Frances	Summer	Brookings
Baker, Lucile	Summer	Carpenter
Bakke, Josie	Summer	Howard
Bane, Ellen M.	Summer	Aurora
Barrows, Grace E.	Summer	Faulkton
Barrows, Lavanchie	Summer	Faulkton
Barthorpe, Lyle	Tractor	Clear Lake
Bartlett, Cora M.	Stenography	Brookings
Bartlett, Frank	Tractor	Chamberlain
Beckler, Ethel	Summer	Sparta, Wis.
Bedessem, Gertrude	Stenography	Brookings
Belk, Vida	Stenography	Henry
Belton, Esther	Summer	Lake Norden
Bender, Benj. F.	Tractor	Bradley
Berg, Alma	Summer	Byrant
Blevins, Mamie	Summer	Hazel
Bogstie, Emma	Summer	Brookings
Bolles, Laura	Tractor	Brookings
Bosworth, Nina	Summer	Estelline
Brackett, Emma	Stenography	Brookings
Brannan, Blanche	Summer	Tracy, Minn.

Brietson, Abner J.	Telegraphy	Brookings
Brown, Ida	Stenography	Minneapolis, Minn.
Browning, Albert	Summer	Hot Springs
Buck, Everett	Tractor	Brentford
Buer, Eldred	Tractor	Bushnell
Burke, Ellen	Stenography	Dupree
Burnham, Mildred	Summer	Bushnell
Burns, Grace	Summer	Mt. Vernon
Caldwell, Clair	Tractor	Brookings
Caldwell, Gladys	Summer	Brookings
Carson, Charlotte	Summer	Bradley
Case, Frances	Stenography	Brookings
Chase, Marcus	Summer	Brookings
Christianson, Mary O.	Summer	Jasper, Minn.
Christianson, Wilhelm	Tractor	Tyler, Minn.
Christofferson, Anna	Tractor	Lake Preston
Clinesmith, Abbie	Stenography	Sioux Falls
Cloutier, Eunice	Stenography	Turton
Cloutier, Lucille	Stenography	Turton
Collins, Mary	Summer	DeSmet
Colton, Ruby	Summer	Arlington
Corcoran, Katherine	Stenography	Lead
Costello, Catherine	Stenography	Cavour
Cox, Margaret	Stenography	Lead
Culp, Laura K.	Stenography	Gregory
Cummings, Wilbur S.	Tractor	Aurora
Curtis, Gertrude	Stenography	Lead
Daniels, Blair	Summer	Brookings
Danielson, Percy	Summer	Hendricks, Minn.
Davis, Gertrude	Summer	White
Davis, Mildred	Stenography	Brookings
Dockstader, Hazel	Summer	Dell Rapids
Donaldson, Doris	Summer	Tracy, Minn.
Doner, Edna Beals	Summer	Gorman
Dunster, Corlie	Summer	Egan
Dybdahl, Lillian	Summer	Brookings
Eddy, Josie	Stenography ...	Wessington Springs
Eidsness, Hilda	Summer	Hazel
Ellsworth, Frances	Summer	Lake Norden
Enright, Mary E.	Stenography	Brookings
Erickson, Alma	Summer	Bryant
Erie, Frances	Summer	Brookings
Eves, Hazel	Stenography	McIntosh
Ewing, Mrs. Bernice	Stenography	Redfield
Fairbrother, Mrs. B.	Stenography	Howard
Fitzgerald, Bernice	Stenography	Lead

Flisrand, William	Tractor	Florence
Florea, Mildred	Summer	Arlington
Frease, Kathryn	Summer	Rapid City
Fromberg, Bertha	Stenography	Crandall
Fryer, Florence	Summer	Doland
Fuhlbrigge, Helena	Summer	Dempster
Fyke, Jewel	Stenography	Wetonka
Garthune, Alma	Stenography	Pipestone, Minn.
Gartland, Detta	Summer	DeSmet
Gaukel, Frances	Stenography	Pine City, Minn.
Gavin, Henrietta	Summer	Kimball
Garwood, Myrtle	Stenography	Faulkton
Gilmore, Mary	Summer	Erwin
Goldbeck, Florence	Summer	Clear Lake
Gooch, Wilbur	Summer	Brookings
Goplin, Grace C.	Summer	Edgerton, Minn.
Gorman, Margaret	Stenography	Canton
Gould, Lillian	Summer	Springfield, Minn.
Green, Carroll	Summer	Brookings
Greenley, Jennie	Stenography	Brookings
Grewe, Ada	Stenography	Erwin
Grewe, Lillie B.	Summer	Erwin
Halbower, Elizabeth	Stenography	Miller
Hall, John B.	Tractor & Telegraphy	Aberdeen
Halls, Mary E.	Summer	Dell Rapids
Halverson, Alma	Summer	Kenneth, Minn.
Halverson, Gerhard	Summer	Brandt
Halverson, Harold	Stenography	Dell Rapids
Hannon, Pearl	Summer	Carthage
Hannon, Thomas	Tractor	Brookings
Hanfeldt, Julia	Summer	Pine City, Minn.
Hanfeldt, Mary K.	Summer	Pine City, Minn.
Hanks, Helen B.	Summer	Tracy, Minn.
Hansen, Eva	Summer	Brookings
Hansen, Marguerite	Stenography	Flandreau
Hansen, R. P.	Summer	Brookings
Harding, Robert	Summer	Brookings
Hart, Marguerite	Telegraphy	Brookings
Hart, Lillian	Stenography	Brookings
Harvey, Lenna	Stenography	Shell Lake, Wis.
Hast, Mary	Stenography	Bruce
Hawes, Belle	Stenography	Jasper, Minn.
Hawes, Hazel	Summer	Jasper, Minn.
Hernes, Swanhild	Stenography	Henry
Hill, Lyla	Stenography	Brookings
Hoffman, Nellia A.	Summer	Vienna

Hoftiezer, Bessie	Summer	Castlewood
Hogstad, Anton, Jr.	Summer	Brookings
Holen, Delia H.	Summer	Brandt
Holm, Esther	Summer	Howard
Horsted, Petrine	Summer	Bryant
Hutton, Helma	Summer	Brookings
Hyde, Elsie	Summer	Brookings
Inhofer, Alice	Summer	Ghent, Minn.
Irish, Esther	Summer	Brookings
Iverson, Selma	Summer	Brookings
Johnson, Anna	Summer	Carthage
Johnson, Ethel	Summer	Brookings
Johnson, Oreat	Summer	Brookings
Johnson, Ruth	Stenography	Faulkton
Keck, Lydia	Stenography	Brookings
Keith, Mark	Tractor	Ellingson
Kittelton, Agnes	Stenography	Henry
Knappen, Marshall	Tractor	Brookings
Knewell, Mrs. Vincent	Stenography	Howard
Knutson, Bertha	Stenography	Brookings
Knutson, Frances	Stenography	Brookings
Konald, Gladys	Summer	Clear Lake
Korstad, Elvin H.	Telegraphy	Brookings
Lambe, Matilda	Tractor	Brookings
Lampson, Laura M.	Stenography	Colman
Larson, Della E.	Summer	Brookings
Larson, Ina E.	Summer	Brookings
Larson, Nelle M.	Summer	Brookings
Lawrence, Walter	Tractor & Telegraphy	McIntosh
Lea, Frances	Summer	Doland
Leberknight, Anna	Summer	Brookings
Lemkuil, Helen	Summer	Plymouth, Wis.
Lien, Ruth	Summer	Brookings
Lindsay, Mary	Stenography	Redfield
Linke, Sadie H.	Red Cross	Brookings
Loken, Emma	Summer	Faulkton
Look, Eva F.	Summer	Lake Preston
Lott, Mildred	Summer	Hartford
Lovett, Frances	Summer	White
Lowry, Nell	Stenography	Lead
Lund, Alice M.	Summer	Erwin
McKenney, James	Tractor	Bradley
McMillan, Edith	Stenography	Brookings
Mair, Marjory	Summer	Brookings
Mall, Helen	Stenography	Brookings
Mann, Bernice	Summer	Brookings

Mansager, Ruby	Summer	Colton
Marshman, Grace	Summer	Brookings
Martin, Monte	Summer	Brookings
Mathews, Hubert	Summer	Brookings
Mathews, Zoa	Summer	Brookings
Matteson, Blanche	Summer	Arlington
Matteson, Florence	Summer	Arlington
Maxvold, Sella	Summer	DeSmet
Meek, Helen	Stenography	Redfield
Metzger, Roy	Summer	Tyndall
Mohr, Anna	Summer	Elkton
Monger, Minne	Summer	Jasper, Minn.
Nelson, Esther I.	Summer	Garretson
Nelson, Ineta	Summer	Dell Rapids
Nelson, Junie W.	Summer	Dell Rapids
Nelson, Marjorie	Summer	DeSmet
Nesseth, Gladys	Summer	Volga
Nord, Daisy	Summer	Huron
Oertli, Ralph	Tractor	Marion, N. D.
Olander, Dwight	Tractor	Pierre
Olson, Angie	Summer	Brookings
Olston, Anna	Summer	DeSmet
Osterman, Fred	Tractor	Andover
Packman, Vera	Stenography	Dell Rapids
Palmer, Florence	Stenography	Brookings
Parker, Rose	Summer	Hazel
Paulson, Agnes M.	Summer	Brandt
Paulson, Effie	Summer	Brandt
Peterson, Harriet	Summer	Brookings
Peterson, Petra	Summer	Arlington
Plumb, Rosa	Stenography	Arlington
Porter, Rev. A. N.	Auto Work	Brookings
Powers, Ethel M.	Summer	Dell Rapids
Prevey, Lucile	Stenography	Milbank
Quinn, Vivian	Summer	Elkton
Rasmussen, Emma	Stenography	Lake Preston
Rasmusson, Emma	Stenography	Winfred
Hasmusson, Marie	Summer	Howard
Ray, Christiana	Stenography	Midland
Remialy, Adele	Stenography	Turton
Richison, Ruby	Stenography	Brookings
Riley, Louise	Stenography	Parker
Robinson, Edna	Summer	Redfield
Rogers, Milton	Tractor	Gary
Rovainen, Mrs. Emma	Stenography	Franklin, Minn.
Ravainen, Gladys	Summer	Franklin, Minn.

Rowe, Belle	Stenography	Brookings
Rude, Ida	Summer	Brookings
Ruden, G. I.	Summer	Hayti
Sabransky, Frederick	Tractor	Aberdeen
Sanders, Cecelia	Summer	Brookings
Schieffelbein, Elsie	Summer	Hayti
Schneck, Erna	Stenography	Milbank
Schouweiler, Helen	Stenography	White
Schultz, Ida E.	Summer	Brookings
Seagreen, Olive	Red Cross work	Turton
Sedam, Lillian	Summer	Brookings
Shaw, B. F.	Summer	Brookings
Sheih, Delia	Stenography	Lesterville
Sheldon, Rachel	Summer	Brookings
Shimmen, Charlotte	Stenography	Lead
Skiff, Hazel	Summer	Brookings
Sloan, Janet	Summer	Brookings
Solberg, Elizabeth	Stenography	Brookings
Solberg, Ruby	Stenography	Brookings
Sour, Hazel E.	Summer	Hayti
Stangeland, Sarah	Summer	Kenneth
Spurling, Dorothy	Summer	Brookings
Steele, Edmund	Summer	Howard
Stinehart, Lunetta	Summer	Bruce
Stokke, Clare	Stenography	Howard
Stordahl, Anna	Summer	Badger
Stordahl, Nora	Summer	Badger
Studbkjaer, Dagny	Summer	Lake Preston
Summers, Grace A.	Stenography	Clark
Sutton, Adeline	Summer	Brookings
Thom, Minnie	Stenography	Howard
Thompson, Hilda	Stenography	Woonsocket
Thompson, Nina K.	Stenography	Brookings
Tift, Ila Edith	Telegraphy	Brookings
Tobin, Esther	Summer	Estelline
Tofte, Anna	Stenography	Brookings
Torrico, Marion Paz	Summer	Cochabamba, Bolivia
Towey, Alice	Stenography	Elkton
Towey, Margaret	Stenography	Elkton
Treick, Alma	Stenography	Scotland
Trygstad, Charlotte	Stenography	Brookings
Turner, Zula	Summer	Brookings
VanOlst, Elizabeth	Summer	Edgerton, Minn.
Vera, Genaro	Summer	Cochabamba, Bolivia
Vogel, Mrs. Opal	Stenography	Redfield
Waldron, Ruth	Summer	Arlington

Wamstad, Lucile R.	Summer	Tracy, Minn.
Waterman, Ethel	Stenography	Faulkton
Weiss, Minnie	Summer	Arlington
Wellington, Isadore	Stenography	Wolsey
West, Ruby	Summer	Bryant
West, Sarah	Summer	Bryant
White, Malcolm	Summer	Brookings
Wilensky, Abraham	Summer	Sioux City, Iowa
Whittemore, Clifford	Tractor	Estelline
Will, Laura	Summer	Kimball
Wilson, Ella	Summer	Elkton
Winkelhorst, Johanna	Summer	Woodstock
Wold, Ruby	Stenography	Brookings
Wood, Laura	Summer	Pingree, N. D.
Woodle, Mae G.	Summer	Elkton
Worden, Winnie	Stenography	Brookings
Ziegler, Pearl	Stenography	Brookings

FARM MECHANICS

Anderson, Almit	Mellette
Archer, Robert	Watertown
Bankert, Rex	Iroquois
Barthorpe, Lyle	Clear Lake
Berg, Jorgen	Renner
Borgan, Carl	Sioux Falls
Crisman, Fay	Armour
Cutler, Homer	Claremont
Davis, Lawrence	Orient
Erickson, Richard	Stockholm
Glanzer, David	Bridgewater
Hallberg, Victor	Stockholm
Hansen, I. A.	Mina
Hansen, Roy M.	Burbank
Hofer, Mike	Bridgewater
Johannesen, Clarence	Athol
Jones, Lynn	Revillo
Jones, Raymond	St. Lawrence
Kambak, Robert	Highmore
Keeler, Stanley	Frederick
Kindler, Fred	Hill City
Kline, Harry	Flandreau
Kugler, William	Ledgewood, N. D.
Lemmon, William	Pierpont
McRae, Bennett	Winfred
Mair, William	Brookings
Moe, Delbert	Woonsocket

Moulten, Lesley	Cresbard
Nelson, Carlyle	Oldham
Nelson, Emil	Claire City
Nielsen, Elmer	Viborg
Noble, Lyle	Vayland
Palmer, Dan	Mina
Penwell, Bruce	Miller
Risch, Ernest	Elkton
Schultz, Emil	Rutland
Sigdestad, Selmer	Bristol
Steinhauser, Milton	Hitchcock
Stewart, Earl	Wentworth
Stubstad, Theodore	Wentworth
Swanson, Homer	Claremont
Swenson, Leonard	Beresford
Terney, Thomas	Baxter, Iowa
Walter, Elias	Carpenter
Walter, Sam	Carpenter
Williams, Claude	Miller

DAIRY SHORT COURSE

Bartow, C. H.	Prescho
May, James	Spearfish
Puchta, Arthur	Springfield, Minn.

S. A. T. C.—SECTION B

First Contingent

Radio Operators

Anderson, Eldon C.	Pierre
Anderson, Julius	Hudson
Bemiss, Hugh	Hudson
Bertram, August	Parkston
Bevington, James E.	Highmore
Brotsky, Ben Leo	Carlock
Browne, Barnard A.	Mitchell
Brunkow, William	Ipswich
Buck, George R.	Crocker
Coon, Otha Fay	Bushnell
Dean, Herbert R.	Buffalo
Donohue, Francis A.	Yankton
Donohue, William P.	Winfred
Fenton, J. Oscar	Fruitdale
Gilmore, Clyde R.	Marcus
Girton, Elbert G.	Academy
Hartzell, Milford	Ipswich
Heaton, Guy H.	Gary

Heiberger, Leo J.	Bridgewater
Hose, Carl William	Lemmon
Hughes, Clarence W.	White Butte
Hunt, Leosane	Cottonwood
Keating, Charles	Madison
Krog, Peter	Gann Valley
Kubowitz, Herbert	Herreid
Kunik, George Herbert	Aberdeen
Larson, Harrold S.	Viborg
Leverett, James	Watertown
Lewis, Alton Edwin	Henry
Linden, Carl Edwin	Ipswich
Logan, Frank John	Aberdeen
Long, Orval R.	Lithia
Lynch, William Daniel	Academy
McFarland, Roy W.	Sioux Falls
March, Leonard W.	Hot Springs
Markus, Clarence	Corsica
Milligan, Edward	Winner
Pederson, Adolf	Yankton
Pinnell, Ira H.	Isabel
Pool, Thomas A.	Mina
Porter, Donald I.	Madison
Sateren, L. E.	Sisseton
Sateren, M. G.	Sisseton
Schutte, Emil C.	Aberdeen
Sclov, Wm.	Canton
Senn, Albert E.	Deadwood
Smith, Chas. E.	Lemmon
Squire, Ka Perrin	Aberdeen
Stakke, Harry	Woonsocket
Summers, John W.	Yankton
Swenumson, Oscar	Sisseton
Thomas, Ernest A.	Flandreau
Thompson, Norman	Pritchard, Ala.
Truby, John	Woodland, Ill.
Whipple, William H.	Highmore
Zimprich, Joseph Edward	Grover

Machinists

Dingle, Edward J.	Terraville
Gilberts, Michael J.	White Lake
Gunderson, Old	Yankton
Holmes, Louis E.	Mitchell
Jellis, James	Waverly
Kelty, John Thomas	Plankinton
Lindeken, George A.	Crookston, Neb.

McDonald, Daniel J.	Wessington Springs
Madden, E. V.	Woonsocket
Matejousky, Joseph J.	Reliance
Norman, Evan	Clear Lake
Oathout, Roy	Ethan
Oldaker, Lynn Ellis	Pierre
Schleuter, John	Wolsey
Stafford, Clyde Edgar	Portland, Ore.
Ugland, Carl	Mellette
Weisel, Alvin C.	Clear Lake
Williams, Chester	Mitchell
Wood, Ralph	Vale
Zerfas, Chas M.	Watertown

Electricians

Barnard, Geo. N.	East Helena, Mont.
Bauhs, Mike A.	Faulkton
Buck, Leslie Chas.	Elkton
Faust, Frank F.	Cross Plains, Wis.
Glanzman, Clarence	Carlyle
Harris, James R.	Terraville
Hoerner, Michael	Bowdle
Manbeck, Raymond G.	Miranda
Pancoast, Geo. W.	Lead
Price, Howard E.	Yankton
Ruoff, Chas.	Wolsey
Scott, Howard M.	Canton
Shearer, Harold M.	Chapelle
Sievers, Walter	Rockham
Simmons, Percy	Wessington Springs
Strandlund, C. N.	Viborg
Tolton, Fay C.	Ft. Bennett
Welch, Bickford	Midland
Winsell, James F.	Miller
Witzel, Earl Rodee	Groton

Carpenters

Bollinger, J. H.	Tyndall
Borah, Floyd J.	Oldham
Hargrove, Wm. H.	Parker
Koehne, Chas. L.	Oldham
Krull, George	Corsica
Madson, Raymond G.	Iroquois
Milne, Chas. G.	Flandreau
Neff, Lawrence	White Butte
Noteboom, John C.	Java
O'Neill, Frank E.	Henry

Oviatt, Herbert V.	Huron
Pease, Lawrence N.	Madison
Peterson, William P.	Lily
Pfaff, Ernest Gustov	Parker
Richter, Henry	Parker
Rockett, George S.	Detroit, Mich.
Rose, Geo. Wm.	Reliance
Vikre, Jacob N.	Lake City
Walsh, John P.	Henry
Weber, Fred W.	Bridgewater

Auto Mechanics

Akerson, John A.	Webster
Albertson, John H.	Montrose
Anderson, Carl A.	Ashton
Anderson, Clement B.	Sioux Falls
Aukerman, Frank C.	Sturgis
Banwarth, Frank W.	Gary
Berfield, Asa	Firesteel
Berlin, Oliver	Leola
Biddle, C. H.	Miller
Birkland, Albert	Beresford
Boone, Frank W.	Estelline
Bressler, Sumner, C.	Kaylor
Brorby, Enoch	Madison
Burger, Arthur V.	Huron
Christensen, George	Cedarbutte
Clauson, Herman N.	Colton
Cleven, Martin O.	Bryant
Eide, Alfred	Volga
Englund, Albert M.	Revillo
Erickson, Edward	Bryant
Estes, Arthur B.	Wood
Filbey, Albert	Iroquois
Giard, Roy Edward	Huron
Grubbs, Ralph A.	McNeely
Hanson, Thomas C.	Hayti
Heuer, Ernest F.	Summit
Himrich, Edward	Selby
Ice, George B.	St. Lawrence
Johnson, Geo. N.	Murdo
Johnson, Ray M.	Iroquois
King, Lloyd William	Sioux Falls
Kayser, Leonard Henry	Parkston
Kessler, Harvey	Okaton
Krick, Russel Aurand	Fedora
Laughlin, Morris G.	Madison

McCallag, Charles B.	Pierre
McCloskey, Hubert P.	Carter
McCormick, Harry K.	Tyndall
McElwain, Clifford V.	Yankton
McKinley, De Witt	Lake City
Merkel, Fred	Greenway
Millage, Arthur	Pukwana
Morkin, Guy Edward	Rensselaer, Ind.
Nelson, Carl Johan	Holmquist
Petree, Bryan E.	Salem
Questad, Leroy Julian	Baltic
Schenk, William	Menno
Scherer, Nickola S.	Hopkins, Minn.
Staley, Arthur	Nowlin
Steichen, Nick P.	White Lake
Stoland, Samuel	Beresford
Straube, Ernest	Firesteel
Thompson, Philip G.	Brookings
Waibel, Glen T.	Huron
Wenande, Nick J.	Alexandria
Wierenga, Henry	Monroe
Wilding, William K.	Winner
Winkler, Frank	Onida
Wiswall, Walter C.	Clear Lake
Woulph, Earl	Eden

Blacksmiths

Adolphson, Oscar C.	Summit
Anderson, Philip S.	Fairfax
Arend, Harry Raymond	Yankton
Benson, Orla W.	Parkston
Brown, Robert Leslie	Waverly
Burnham, Curtis H.	Aberdeen
Bruner, George Stewart	Ekron, Ky.
Cox, Vogle	Lead
Fanslow, Francis Edwin	Yankton
Fralish, Louis P.	Turton
Herbert, Eugene	Bakerville
Kaulitz, Frederick Thomas	White Butte
Kennealley, John E.	Raymond
Larson, LeRoy	Brookings
Larson, Ludvig L.	Burbank
Looysen, Herphy L.	White
Lund, Clarence	White
Macy, Arthur Solomon	Vermillion
Mankey, Clyde	Webster
Neyhart, Erle R.	Gorman

Pederson, Albert	Star, Nebr.
Permann, Emil	Greenway
Sanborn, Elwood	Hurley
Schmidt, Fred W.	Alpena
Simmonett, Barnard T.	Le Sueur Center, Minn.
Soelzer, Guido	Piedmont
Squires, Neil M.	Elk Point
Thompson, Hans	Sturgis
Thyen, Bernard	Waverly
Voss, Henry G.	Clark
Welch, R. L.	Brookings

S. A. T. C.—SECTION B.

Second Contingent

Auto Mechanics

Adam, Gottlieb	Hosmer
Auth, Joseph M.	Brookings
Bare, Alvan C.	Lake Andes
Boerger, Marvin R.	Milbank
Burke, Andrew F.	Fairfax
Calkins, Raymond (deceased)	Mitchell
Chicoine, Benjamin J.	Jefferson
Cuffe, Henry L.	Sisseton
Cummings, Wilbur S.	Miller
Dahl, Harry M.	Watertown
Dailey, Willard O.	Bison
Drake, Albert C.	Whitewood
Eide, Clarence	Nisland
Ekse, Ingvald J.	Hendricks, Minn.
Ellingsen, John, Jr.	Platte
Engwell, Thomas S.	Hazel
Eucker, Emil L.	Gregory
Furchner, Ernest W.	Plankinton
Gerhard, Henry P.	Ipswich
Cigear, Clayton A.	Bison
Gilbert, Leon H.	Doland
Goetsch, Richard W.	Chamberlain
Gray, Ephriam H.	Buffalo
Gregerson, Mancel A.	Webster
Gundersen, Louis E.	Lead
Haider, Edmund F.	Zell
Hall, Caleb G.	Isabel
Hall, Grady E.	Mina
Hampton, Willie B.	Steedman, Mo.
Hanson, Alfred T.	Elk Point

Horsley, Emmet O.	Murdo
Hyland, Oscar	Nunda
Jacobsen, Reimer	Inwood
Jansen, Fred B.	Hot Springs
Jansen, George	Castlewood
Johnson, Oscar A.	Hudson
Jones, Lowell E.	Sioux Falls
Kills-in-Sight, George Jake	Wososo
Knudson, Henry	Pollock
Knuteson, Harvey L.	Plankinton
Krager, Robert M.	Parker
Kyte, Raymond J.	Burbank
Lowe, Alvin H.	Aberdeen
Lunt, Glen H.	Trent
Lutz, Alfred E.	Eureka
McClemons, Charles W.	Aurora
McDonald, William F.	Miller
Magnuson, Martin G.	Ethan
Martens, Harry H. J.	Wessington
Mendenhall, Elver V.	New Castle, Wyo.
Newell, Lee F.	Plankinton
Norby, Leonard G.	Parker
Nygard, John C.	Lily
Nelson, Martin O.	Stratford
Orr, Archie M.	Wood
Paterson, David E.	Lake Preston
Pederson, Ernest A.	Sioux Falls
Pirmantgen, Frank	New Effington
Rider, Sydney A.	Florence
Rist, Fred C.	Centerville
Ritter, Clifford R.	Iroquois
Salathe, John W.	Harrold
Sebion, Robert	Webtser
Sheriff, Chester A.	Rapid City
Shinn, Elmer L.	Carthage
Simons, Ernest T.	Platte
Smalley, Chester K.	Geddes
Smith, Omer A.	Ellis
Solberg, Arnold J.	Rapid City
Spicer, Elmer L.	Wessington
Stainbrook, Carl P.	Veblen
Sterling, John V.	Madison
Stoltz, Leo N.	Emery
Thompson, Harry	Viborg
Tinkelenburg, Tony	Corsica
Tinkelenburg, William	Corsica

Tollefsen, Marvin C.	Nunda
Torgerson, Alonzo D.	Westport
Trager, Philip J. (deceased)	Heldron
Trewatha, Hershel	Parker
Turner, Kenneth A.	Wessington Springs
Van Dervoort, Harvey H.	Milbank
Wingert, Mathias J.	Bridgewater
Winkler, Joseph F.	Onida
Wolden, Joseph	Sioux Falls
Wright, George R.	Valley Springs

Electricians

Bird, Edgar W.	Howell
Carmichael, Grover F.	Willow Lakes
Dye, Emmett C.	Richards
Fogerson, Andrew D.	Sisseton
Gill, William J.	Elk Point
Grover, Albert J.	Sisseton
Houde, Ernest B.	Sisseton
Huddleston, Albert R.	Whitehorse
Hunter, Royce E.	Letcher
Johnson, Rudolph M.	Lake Preston
McKillop, William H.	Canistota
Mullin, Charles R.	Watertown
Myhre, Carl W.	Veblen
Norwood, Delbert	Ashton
Pelletier, Edward C.	Deadwood
Peterson, Otto B.	Aberdeen
Riedel, Walter A. J.	Ramona
Sharf, Sherman H.	Summit
Zamow, William A. L.	Watertown

Machinists

Berg, Edwin H.	Volga
Bolton, Louis J.	Hamill
Cumpston, Orin G.	Harrold
Cutts, William N.	Yankton
Fascher, Erich E.	Kimball
Henden, Adolph M.	Howard
Henderson, Arthur A. H.	Elkton
Hosterman, Lee D.	Menno
Inberg, Willie	Centerville
Johnson, Luther L.	Langford
Jordan, Edward D.	Rapid City
Klufa, James E.	Burke
Krell, Arthur J. G.	Sioux Falls
Lund, Jens J.	Vermillion

Ringstmeyer, Henry R.	Colome
Satnan, Eugene O.	Sioux Falls
Smith, Harold M.	Edgemont
Turner, Jack A.	Springfield
Weepie, Fred A.	Ethan
Halter, Leo. (deceased)	Flandreau

Radio Operators

Adler, Ernest H.	Milbank
Aisenbrey, Bethuel J.	Menno
Allen, Kenneth L.	Woonsocket
Anderson, Walter J.	Cole
Archer, Robert E.	Watertown
Arneson, Frank E.	Tulare
Ash, Joseph T.	Kennebec
Baumheier, Rudolph E.	Sioux Falls
Bender, Peter	Menno
Biever, Edward J.	Cottonwood
Bornhurst, Clyde B.	Tulare
Busch, Celestine	Woonsocket
Bye, Olaf O.	Lily
Cashman, John M.	Woonsocket
Cordes, Milton C.	Carter
Doman, Charley R. (deceased)	Valley Springs
Duncan, Roy J.	Salem
Foster, Richard L., Jr.	Brayton
Freemont, Lee F.	Alpena
French, Harold	Letcher
Furois, Gilbert A.	St. Onge
Gallagher, Frank P.	Mitchell
Hall, Oren W.	Milaca
Hanson, Oliver F.	Tilford
Harper, Chas. J.	Sioux Falls
Haw, Arthur R.	Canton
Herrmann, Wesley N.	Hilland
Hook, Henry D.	Cavour
Horan, William J. (deceased)	Winner
Horlocker, Floyd D.	Sturgis
Hoy, George F.	Clear Lake
Jameson, George N.	Sioux Falls
Jennings, Verne H.	Sioux Falls
Jungmann, Solomon	Menno
Kahler, Ernest J.	Sioux Falls
Keaton, Royal I.	Copper Hill, Va.
Kent, Ernest H.	Fruitdale
Kibble, Arthur L.	Springfield
Kline, Robert C.	Buffalo

Knight, Joseph R.	Woonsocket
Kramer, Nicholas J.	Leola
Lardy, Peter A.	Webster
Laufman, Arthur W.	Spencer
Leyse, Carl G.	Sioux Falls
Locken, Carl I.	Aberdeen
Loesch, John A.	Oldham
McPherson, Edward S.	Sturgis
Madsen, Sanford W.	Carpenter
Meisenhoelder, Julius G.	Parkston
Mellenthin, William	Aberdeen
Metzger, Roy C.	Tyndall
Meuer, Mike J.	Bristol
Michelke, Herman A.	Ramona
Miller, Charles S.	Parker
Muller, Robert H.	Sioux Falls
Neuman, Franklin L.	Clear Lake
Olmein, Nils J.	Hermosa
Owen, Thornton S.	Sioux Falls
Parquet, Stephen H.	Woonsocket
Payne, Marion O.	Nisland
Perry, Arthur R.	Aberdeen
Peters, Emery A.	Yankton
Primising, Emil H.	Watertown
Privett, Earl J.	Wessington
Pruessing, Ernest H.	Hecla
Reichelt, Clarence E.	Tea
Robertson, William M.	Martin
Sanderson, Clarence H.	Hudson
Saur, Henry W.	Turton
Schliep, Edward F.	Forbes, N. D.
Scudder, George M.	Sioux Falls
Seymour, Glenn	Mitchell
Shaw, Robert C.	Hazel
Sime, George	Millard
Skeese, Howard C.	Litchfield, Mich.
Smith, Donald L.	Spearfish
Spencer, Floyd M.	Sioux Falls
Stewart, Harold B.	Ismay, Mont.
Swanson, Elmer W.	Russell, Minn.
Swift, Henry F.	Gettysburg
Wagner, John D.	Alexandria
Wiese, Joseph A.	Huron
Wilburn, Paul	Dalzell
Whittemore, Walton H.	Estelline

SUMMARY

1918-1919

Collegiate—	Men	Women	Total	Grand Total
Post Graduate	4	....	4	
Seniors	19	22	41	
Juniors	21	28	49	
Sophomores	51	31	82	
Freshmen	202	37	239	
Specials	14	5	19	
Total Collegiate	311	123	434	434
Preparatory—				
Fourth Year	11	8	19	
Third Year	9	6	15	
Second Year	10	6	16	
First Year	23	13	36	
Total Preparatory	53	33	86	86
Music Students	41	91	132	132
School of Agriculture—				
Fourth Year	6	5	11	
Third Year	12	11	23	
Second Year	44	11	55	
First Year	86	18	104	
Total School of Agriculture.	148	45	193	193
Summer Session	45	230	275	275
Short Courses—				
Creamery	3	....	3	
Farm Mechanics	46	....	46	
Total Short Courses	49	....	49	49
S. A. T. C., Sec. B.—				
First Contingent	206	....	206	
Second Contingent	209	....	209	
Total Section B.	415	....	415	415
Grand Totals	1062	522	1584	1584
Names Repeated	53	83	136	136
Net Totals	1009	439	1448	1448

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South Dakota State College of Agriculture and Mechanic Arts

Annual Catalog
1919 -- 1920

With Announcements for
1920 . . . 1921

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JUN 26 1921



Brookings, South Dakota

The College Bulletin

The South Dakota State College Bulletin is published quarterly by authority of the Regents of Education.

The Bulletin contains information in detail relative to the entrance requirements of the different courses of instruction, the schedules of study, lists of instructors of the institution and its administration, equipment, organizations, publications, funds, students' expenses, scholarships, etc.

The institution includes the following departments of instruction: Agricultural Journalism, Agronomy, Animal Husbandry, Art, Botany and Plant Diseases, Chemistry, Civil Engineering, Commerce, Dairy Husbandry, Electrical Engineering, English, Entomology, Foreign Languages, History and Political Science, Home Economics, Horticulture and Forestry, Manual Arts, Mathematics, Mechanical Engineering, Military Science, Music, Pharmacy, Physical Education, Physics, Poultry Husbandry, Veterinary Medicine, Vocational Education, Zoology and Rural Hygiene, the Preparatory Department, the School of Agriculture and the Tractor and Auto-Mechanics School.

In addition to the instructional work the Agricultural Experiment Station and the Agricultural Extension Division are maintained at the College.

The College bulletins are sent free, postage paid, on request. The request should indicate the department concerning which information is desired.

For bulletins and other information address the Registrar, State College, Brookings, South Dakota.

South Dakota State College
of Agriculture and
Mechanic Arts

Annual Catalog

1919 - 1920

With Announcements

for

1920 - 1921

Published Quarterly by
THE SOUTH DAKOTA STATE COLLEGE
Brookings, South Dakota

CALENDAR

June 1920								January 1921							
S	M	T	W	T	F	S		S	M	T	W	T	F	S	
		1	2	3	4	5								1	
6	7	8	9	10	11	12		2	3	4	5	6	7	8	
13	14	15	16	17	18	19		9	10	11	12	13	14	15	
20	21	22	23	24	25	26		16	17	18	19	20	21	22	
27	Summer School Begins							23	24	25	26	27	28	29	
								30	31						

July 1920								February 1921							
				1	2	3				1	2	3	4	5	
4	5	6	7	8	9	10		6	7	8	9	10	11	12	
11	12	13	14	15	16	17		13	14	15	16	17	18	19	
18	19	20	21	22	23	24		20	21	22	23	24	25	26	
25	26	27	28	29	30	31		27	28						

August 1920								March 1921							
1	2	3	4	5	6	7				1	2	3	4	5	
8	9	10	11	12	13	14		6	7	8	9	10	11	12	
15	16	17	18	19	20	21		13	14	15	16	17	18	19	
22	23	24	25	26	27	28		20	21	22	23	24	25	26	
29	30	31						27	28	29	30	31			

September 1920								April 1921							
			1	2	3	4							1	2	
5	6	7	8	9	10	11		3	4	5	6	7	8	9	
12	13	14	15	16	17	18		10	11	12	13	14	15	16	
19	20	21	22	23	24	25		17	18	19	20	21	22	23	
26	27	28	29	30				24	25	26	27	28	29	30	

October 1920								May 1921								
					1	2				1	2	3	4	5	6	7
3	4	5	6	7	8	9				8	9	10	11	12	13	14
10	11	12	13	14	15	16				15	16	17	18	19	20	21
17	18	19	20	21	22	23				22	23	24	25	26	27	28
24	25	26	27	28	29	30				29	30	31				
31																

November 1920								June 1921							
	1	2	3	4	5	6				1	2	3	4		
7	8	9	10	11	12	13		5	6	7	8	9	10	11	
14	15	16	17	18	19	20		12	13	14	15	16	17	18	
21	22	23	24	25	26	27		19	20	21	22	23	24	25	
28	29	30						26	Summer School Begins						

December 1920								July 1921							
			1	2	3	4							1	2	
5	6	7	8	9	10	11		3	4	5	6	7	8	9	
12	13	14	15	16	17	18		10	11	12	13	14	15	16	
19	20	21	22	23	24	25		17	18	19	20	21	22	23	
26	Farm and Home Week							24	25	26	27	28	29	30	
								31							

ANNOUNCEMENTS

SUMMER TERM

1920

June 28, Monday—Summer School begins.

August 6, Friday—Summer School ends.

FALL TERM

1920

September 20-21, Monday-Tuesday—Entrance Examinations and Registration.

September 22, Wednesday—Work of Fall term begins at 8:00 a. m.

November 1, Monday—Enrollment in the School of Agriculture.

November 11, Thursday—Armistice Day.

November 25-29, Thursday to Monday inclusive—Thanksgiving Recess.

December 17, Friday—Work of Fall Term closes at 4:15 p. m.

December 27-January 1, Monday to Saturday, inclusive—Farmers' and Home-Makers' Week.

WINTER TERM

1921

January 3-4, Monday-Tuesday—Registration for Winter term.

January 5, Wednesday—Work of Winter term begins at 8:00 a. m.

February 22, Tuesday—Washington's Birthday.

March 23, Wednesday—Work of Winter term closes at 4:15 p. m.

March 24, Thursday—School of Agriculture closes.

March 25-26, Friday-Saturday—Spring Recess.

SPRING TERM

1921

March 28-29, Monday-Tuesday—Registration for Spring term.

March 30, Wednesday—Work of Spring term begins at 8 a. m.

May 30, Monday—Memorial Day.

June 13, Monday—Thirty-fifth Annual Commencement at 10:30 a. m.

June 14-15-16, Tuesday-Wednesday-Thursday—Closing Examinations.

REGENTS OF EDUCATION

Hon. T. W. Dwight	Sioux Falls
Term Expires January 1, 1921	
Hon. August Frieberg	Beresford
Term Expires January 1, 1925	
Hon. J. W. Campbell	Huron
Term Expires January 1, 1921	
Hon. T. D. Potwin	Lemmon
Term Expires January 1, 1923	
Hon. F. A. Spafford, M. D.,	Flandreau
Term Expires January 1, 1925	

Officers of the Board

Hon. T. W. Dwight	President
Hon. I. D. Aldrich	Secretary
Hon. G. H. Helgersen (State Treasurer)	Treasurer

Regents' Committee for the College

Hon. J. W. Campbell, Chairman	Hon. T. W. Dwight
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COLLEGE STAFF

Officers of Administration

WILLIS E. JOHNSON, Ph. D., LL. D.
President

GEORGE LINCOLN BROWN, Ph. D.
Vice President; Dean of the Faculty

HUBERT BERTON MATHEWS, M. S.
Vice Dean of the Faculty; Director of the Summer School

MIRIAM GERLACH, A. B.
Dean of Women

R. A. LARSON
Secretary of the College

JAMES W. WILSON, M. S. A.
Director of the Experiment Station

NIELS E. HANSEN, M. S., Sc. D.
Vice Director of the Experiment Station

CHRISTIAN LARSEN, M. S. A.
Director of Agricultural Extension

ALBERT NASH HUME, M. S., Ph. D.
Superintendent of Substations; Director of State Soil Survey

GEORGE C. PHILLIPS, B. S., E. E.
Registrar

MRS. MATTIE TOZER
Superintendent of Women's Halls

OMAR NELSON BRADLEY, Capt. U. S. A.
Commandant, Reserve Officers' Training Corps

DIVISION OF INSTRUCTION

The number after each name indicates the beginning of the present period of service in the college.

WILLIS E. JOHNSON, 1919, President

Ph. D., University of Minnesota; LL. D., Dakota Wesleyan University.

GEORGE LINCOLN BROWN, 1897, Vice President; Dean of the Faculty; Professor of Mathematics.

M. S., University of Missouri; Ph. D., University of Chicago.

HUBERT BERTON MATHEWS, 1892, Vice Dean of the Faculty; Director of the Summer School; Professor of Physics.

B. S., M. S., South Dakota State College.

FREEMAN ANDREWS, 1918, Instructor in Forging.**THOMAS WHITFIELD BALDWIN, 1918, Professor of English.**

A. B., Erskine College; A. M., Ph. D., Princeton University.

D. BENGE, 1919, Assistant to the Professor of Military Science and Tactics.

Sergeant, United States Army.

ROBERT H. BENNETT,* 1919, Instructor in Chemistry.

A. B., University of Kentucky.

EVA BICKEL, 1919, Instructor in Home Economics.

B. S., South Dakota State College.

EDWARD R. BINNEWIES, 1913, Associate Professor of Chemistry.

B. S., M. S., South Dakota State College.

JOHN A. BONELL, 1910, Assistant Professor of Mechanical Engineering.**BYRON BRIGGS BRACKETT, 1909, Professor of Electrical Engineering.**

A. B., A. M., Syracuse University; Ph. D., Johns Hopkins University.

OMAR NELSON BRADLEY, 1919, Commandant, Professor of Military Science and Tactics.

Captain, U. S. A.; Graduate U. S. Military Academy, West Point.

*Resigned, January 1, 1920.

CHARLES HARVEY BRADY, 1915, Professor of Vocational Education.
B. S., Indiana Tri-State College; A. B., University of Indiana; A. M., Columbia University.

ALFRED BUSHEY, 1919, Assistant Professor of Agronomy.
B. S., South Dakota State College.

ADA B. CALDWELL,* 1899, Professor of Industrial Art.

MARIAN CARLISLE, 1919, Instructor in Piano.

GUDRUN I. CARLSON, 1918, Professor of Home Economics.
B. S., Columbia University.

MANLEY CHAMPLIN, 1911, Associate Professor of Agronomy; Associate Agronomist, Experiment Station.**
B. S., M. S., South Dakota State College.

CARL CHRISTENSEN, 1906, Professor of Music.

ALEXANDER F. CULHANE, 1919, Assistant in Dairy Husbandry.
B. S., South Dakota State College.

B. A. DUNBAR, 1911, Professor of Chemistry; Chemist, Experiment Station.
A. B., A. M., Ohio Wesleyan University.

HELEN DVORAK, 1919, Instructor in Violin.
Mus. B., American Conservatory of Music.

ELIZABETH EVANS, 1919, Instructor in English.
A. B., Mt. Holyoke College; A. M., Columbia University.

ROBERT BLACKWOOD FORSEE, 1901, Principal of the Preparatory Department.
Principal of Pedagogy, Western College (Missouri).

MATTHEW FOWLDS, 1913, Assistant in Agronomy; Assistant in Crops, Experiment Station.
B. S., South Dakota State College.

MIRIAM GERLACH, 1918, Dean of Women.
A. B., University of Illinois.

GEORGE GILBERTSON, 1914, Instructor in Entomology; Assistant State Entomologist; Assistant Entomologist, Experiment Station.
B. S., M. S., South Dakota State College.

MARY GILBERTSON, 1919, Library Assistant and Instructor in Art.

*On leave of absence since January 1, 1920.

**Transferred to the Extension Division, April 1, 1920.

NIELS EBBESEN HANSEN, 1895, Professor of Horticulture and Forestry; Vice Director and Horticulturist of the Experiment Station.

B. S., M. S., Iowa Agricultural College; Sc. D., University of South Dakota.

ALBERT SPENCER HARDING, 1897, Professor of History and Political Science.

B. S., South Dakota State College; A. M., University of Nebraska.

RUTH HJERTAAS, 1919, Assistant Professor of Physical Education.
Diploma, Columbia Normal School of Physical Education.

ANTON HOGSTAD, Jr., 1917, Instructor in Pharmacy.

P. C., Philadelphia College of Pharmacy; B. S., South Dakota State College.

GLEN HOON, 1919, Instructor in Agronomy.

B. S., South Dakota State College.

HOWARD H. HOY, 1899, Associate Professor of Physics and Mechanical Engineering.

B. S., M. S., South Dakota State College.

ALBERT NASH HUME, 1911, Professor of Agronomy; Superintendent of Substations; Agronomist, Experiment Station; Director of State Soil Survey.

B. S. A., M. S., Purdue University; Ph. D., Goettingen University.

B. ELOISE HUSKINS, 1919, Instructor in Home Economics.

B. S., Skidmore College.

JOSEPH GLADDEN HUTTON, 1911, Associate Professor of Agronomy; Associate Agronomist, Experiment Station; Assistant Director of State Soil Survey.

B. S., University of Chicago; M. S., University of Illinois.

ARTHUR M. JOHNSON, 1919, Instructor in Music.

B. L. JOHNSON, 1918, Assistant in Dairy Husbandry.

B. S., Massachusetts State Agricultural College.

HORACE M. JONES, 1919, Instructor in Dairy Husbandry.

B. S., South Dakota State College.

NELLIE J. KENDALL, 1912, Instructor in English.

B. S., South Dakota State College.

PAUL W. KIESER, 1920, Professor of Journalism, Agricultural Editor.

- LOUISA ELIZABETH KIRK, 1919, Instructor in Home Economics.**
B. S., South Dakota State College.
- ARTHUR HENRY KUHLMAN, 1918, Associate Professor of Animal Husbandry; Associate Animal Husbandman, Experiment Station.**
B. S., M. S., University of Wisconsin.
- CHRISTIAN LARSEN, 1907, Professor of Dairy Husbandry; Director of the Extension Division; Dairy Husbandman, Experiment Station.**
B. S. A., M. S. A., Iowa State College.
- WILLIAM E. LATTIN,* 1918, Assistant Professor of Mathematics.**
A. B., University of South Dakota; A. M., University of Wisconsin.
- L. K. LAURSEN, 1919, Instructor in Woodwork.**
- LOUISE LOCKERBY LEATON, 1916, Instructor in Home Economics.**
B. S., Illinois Wesleyan University.
- CHARLES CLINTON LIPP, 1913, Professor of Veterinary Medicine; Consulting Veterinarian, Experiment Station; Director of the Animal Health Laboratory.**
D. V. M., Ohio State University.
- HOWARD LOOMIS, 1910, Assistant and Analyst in Agronomy.**
A. B., Albion College; M. S., South Dakota State College.
- FRANK E. McCALL, 1916, Associate Professor of Horticulture; Extension Specialist in Horticulture.**
B. S., Iowa State College.
- ADA McCORDIC, 1918, Instructor in Mathematics.**
A. B., Zion College; A. M., University of Wisconsin.
- GERTRUDE McKNIGHT, 1915, Instructor in the School of Agriculture.**
- JOSEPH A. MACHLIS, 1919, Assistant in Agronomy in Connection with the State Soil Survey.**
B. S., University of Wisconsin.
- EDGAR GEORGE MEINZER, 1919, Associate Professor of English.**
A. B., A. M., Beloit College.
- CARL S. METZGER, 1919, Adviser of Men.**
A. B., University of Michigan.

*Resigned, February 13, 1920.

CHRISTY WILLIAM MICHEL, 1912, Professor of Botany.

A. B., Litt. B., Ohio Wesleyan University; A. M., Harvard University.

M. KRETE MILLER, 1919, Instructor in Industrial Art.

B. S., South Dakota State College.

SHIRLEY PUTNAM MILLER, 1905, Professor of Zoology and Rural Sanitation.

B. S., South Dakota State College; A. M., University of Minnesota.

CLAIRE WILLY MILNE, 1919, Instructor in Music.**JANE MULLENBACH, 1920, Assistant Professor of English.**

A. B., University of Michigan; A. M., University of Chicago.

EDMOND H. NELSON, 1919, Assistant in the Animal Health Laboratory.

B. S., South Dakota State College.

W. ALBERT PETERSON, 1912, Assistant Professor of Music.

Mus. Bac., American Conservatory of Music.

GEORGE C. PHILLIPS, 1918, Registrar; Assistant Professor of Electrical Engineering.

B. S., E. E., South Dakota State College.

EDITH PIERSON, 1919, Associate Professor of Home Economics.

B. S., Lewis Institute.

WILLIAM HOWARD POWERS, 1905, Librarian; Associate Professor of English.

A. B., Miami University; A. M., Harvard University.

ELLSWORTH O. PRATHER, 1919, Professor of Commercial Science.

A. B., Austin College; M. Accts., Gem City Business College.

EARL R. SERLES, 1915, Professor of Pharmacy.

Ph. G., B. S., M. S., South Dakota State College.

HARRY C. SEVERIN, 1909, Professor of Entomology and Nature Study; Entomologist, Experiment Station; State Entomologist.

A. B., University of Wisconsin; A. M., Ohio State University.

CARLTON SHERWOOD, 1919, Instructor in the School of Agriculture.

A. B., University of South Dakota.

GLADYS MARY SLOCUM, 1918, Instructor in Commercial Science.

B. O., University of Nebraska.

JEAN PAULINE SMITH, 1919, Associate Professor of Modern Languages; in charge of French.

A. B., University of California; A. M., Leland Stanford, Jr., University.

DAVID L. SNADER, 1919, Professor of Civil Engineering.

C. E., M. S., Ohio Northern University.

HALVOR C. SOLBERG, 1891, Professor of Mechanical and Steam Engineering.

B. S., South Dakota State College; B. M. E., M. E., Purdue University.

GEORGE ARTHUR STARRING,* 1919, Professor of Journalism; Agricultural Editor; Editor of Bulletins for College, Experiment Station, and Extension Division.

A. B., Huron College.

GEORGE LEIGH STEVENSON, 1919, Professor of Poultry Husbandry.

B. S., Colgate University; B. S. A., Cornell University.

GEORGE S. TAYLOR, 1918, Instructor in Chemistry.

A. B., Hanover College.

HENRIETTA J. TROMANHAUSER, 1918, Associate Professor of Modern Languages, in charge of Spanish.

A. B., University of Chicago; Ph. D., Universities of Berlin and Heidelberg.

MERLE W. VITTUM,* 1919, Professor of Secondary Agriculture; Principal of the School of Agriculture.

A. B., Illinois College.

EUGENE J. VOIGT, 1919, Associate Professor of Mechanical Engineering.**

B. S., C. E., Ohio University.

CLARENCE FLOY WELLS, 1919, Instructor in Chemistry; Assistant Station Chemist.

A. B., M. S., West Virginia University.

C. A. WEST, 1919, Professor of Physical Education.

B. S., Coe College.

HAZEL M. WILLIS, 1919, Associate Professor of Art.

B. S., Columbia University.

JAMES WILBUR WILSON, 1902, Professor of Animal Husbandry; Director and Animal Husbandman of the Experiment Station.

B. S. A., M. S. A., Iowa State College.

*Resigned March 1, 1920.

**Resigned April 1, 1920.

CLINTON R. WISEMAN, 1918, Assistant Professor of Vocational Education, in charge of Agricultural Education.

B. S., University of Wisconsin.

THOMAS H. WRIGHT, Jr., 1917, Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman and Bacteriologist, Experiment Station.

B. S., Iowa State College.

GRACE BENNETT WYNN, 1918, Instructor in Voice.

Mus. Bac., Columbia School of Music.

GERTRUDE S. YOUNG,* 1907, Assistant Professor of History and English.

A. B., University of Wisconsin.

*On leave of absence since February 1, 1920.

STUDENT ASSISTANTS

ANDREW ALLISON, Assistant in Chemistry.

MARCUS CHASE, Assistant in Botany.

DAVID DONER, Assistant in Animal Husbandry.

KENNETH HOOD, Assistant in Zoology.

JOHN KNEEBONE, Assistant in Animal Husbandry.

LORENZ LIPPERT, Assistant in the School of Agriculture.

ERNEST MICHAELS, Assistant in Civil Engineering.

HOMER MATHIESEN, Assistant in Dairy Husbandry.

WALTER PARISH, Assistant in the School of Agriculture.

PEARL PRATT, Assistant in the School of Agriculture.

GILBERT RUDEN, Assistant in the School of Agriculture.

ALMA THOMAS, Assistant Librarian.

GEORGE H. VALENTINE, Assistant in Zoology.

AGRICULTURAL EXPERIMENT STATION STAFF AND ASSISTANTS

WILLIS E. JOHNSON, Ph. D., LL. D., President.

JAMES WILBUR WILSON, 1902, Director and Animal Husbandman; Professor of Animal Husbandry, Instructional Division.

B. S. A., M. S. A., Iowa State College.

NIELS E. HANSEN, 1895, Vice-Director and Horticulturist, Professor of Horticulture and Forestry, Instructional Division.

B. S., M. S., Iowa State College; Sc. D., University of South Dakota.

MANLEY CHAMPLIN,* 1909, Assistant Agronomist; Associate Professor of Agronomy, Instructional Division.

B. S., M. S., South Dakota State College.

B. A. DUNBAR, 1911, Consulting Chemist, Experiment Station; Professor of Chemistry, Instructional Division.

A. B., Ohio Wesleyan University.

MATTHEW FOWLDS, 1913, Assistant in Crops; Assistant in Agronomy, Instructional Division.

B. S., South Dakota State College.

GEORGE GILBERTSON, 1914, Assistant Entomologist, Experiment Station; Instructor in Entomology, Instructional Division; Assistant State Entomologist.

B. S., M. S., South Dakota State College.

ALBERT NASH HUME, 1911, Agronomist and Superintendent of Substations; Professor of Agronomy, Instructional Division.

B. S. A., M. S., Purdue University; Ph. D., Goettingen University.

JOSEPH GLADDEN HUTTON, 1911, Associate Agronomist; Associate Professor of Agronomy, Instructional Division.

B. S., University of Chicago; M. S., University of Illinois.

B. L. JOHNSON, 1918, Dairy Analyst.

B. S., Massachusetts Agricultural College.

HORACE M. JONES, 1918, Assistant Dairy Husbandman; Instructor in Dairy Husbandry, Instructional Division.

B. S., South Dakota State College.

ARTHUR HENRY KUHLMAN, 1918, Associate Animal Husbandman; Associate Professor of Animal Husbandry, Instructional Division.

B. S., M. S., University of Wisconsin.

CHRISTIAN LARSEN, 1907, Dairy Husbandman; Director of Extension Division; Professor of Dairy Husbandry, Instructional Division.

B. S. A., M. S. A., Iowa State College.

CHARLES C. LIPP, 1913, Consulting Veterinarian, Experiment Station; Professor of Veterinary Medicine, Instructional Division; Director of the Animal Health Laboratory.

D. V. M., Ohio State University.

*Transferred to the Extension Division, April 1, 1920,

HOWARD LOOMIS, 1910, Assistant and Analyst in Agronomy.

A. B., Albion College.

H. C. SEVERIN, 1909, Entomologist; Professor of Entomology and Nature Study, Instructional Division.

A. B., University of Wisconsin, A. M., Ohio University.

GEORGE ARTHUR STARRING, 1910, Agricultural Editor; Professor of Journalism, Instructional Division; Editor of Bulletins for College, Experiment Station, and Extension Division.

A. B., Huron College.

CLARENCE F. WELLS, 1919, Assistant Chemist; Instructor in Chemistry, Instructional Division.

A. B., M. S., West Virginia University.

THOMAS H. WRIGHT, Jr., 1917, Assistant Dairy Husbandman and Dairy Bacteriologist; Assistant Professor of Dairy Husbandry, Instructional Division.

B. S., Iowa State College.

DIVISION OF AGRICULTURAL EXTENSION

WILLIS E. JOHNSON, 1919, Ph. D., LL. D., President.

CHRISTIAN LARSEN, 1907, Director of the Extension Division; Professor of Dairy Husbandry, Instructional Division; Dairy Husbandman, Experiment Station.

B. S. A., M. S. A., Iowa State College.

I. B. JOHNSON,* 1917, County Agent Leader.

B. S., Iowa State College.

MURRAY REED BENEDICT, 1919, Farm Management Demonstrator.

B. S., University of Wisconsin.

H. J. BOYTS, 1918, Assistant County Agent Leader.

B. S., Iowa State College.

ROBERT JAMES WILLIAM BRIGGS, 1919, Inspector in Charge, Hog Cholera Work.

M. D. C., Chicago Veterinary College.

(Paid entirely from Federal Funds.)

MANLEY CHAMPLIN, 1920, Extension Specialist in Soils and Crops.

B. S., M. S., South Dakota State College.

*Resigned, March 15, 1920.

H. E. DAWES, 1916, Leader of Short Courses and Correspondence Courses.

B. S., M. A., Northwestern Normal.

IRENE DUNNE, 1918, Assistant State Club Leader.

HENRY C. GILBERT, 1918, Assistant State Leader of Barberry Eradication.

B. S., M. S., Oregon Agricultural College.

(Detailed by United States Department of Agriculture.)

A. L. HAYNES,* 1918, Assistant State Club Leader.

J. C. HOLMES, 1919, Extension Specialist in Livestock.

B. S., Kansas Agricultural College.

W. F. KUMLIEN, 1920, County Agent Leader.

A. B., University of Wisconsin.

F. E. McCALL, 1916, Extension Specialist in Horticulture; Associate Professor of Horticulture, Instructional Division.

B. S., Iowa State College.

ROBERTA McNEILL, 1918, State Home Demonstration Leader.**

R. L. PATTY, 1916, Extension Specialist in Agricultural Engineering.

B. Di., Iowa Teachers' College; B. S., in Agricultural Engineering, Iowa State College.

SELMA RONGSTAD, 1918, Assistant State Club Leader.

PAUL J. SCARBRO, 1918, State Club Leader.

A. B., Highland Park College, B. Di., Iowa State Teachers' College.

GEORGE A. STARRING, Agricultural Editor; Professor of Journalism, Instructional Division; Editor of Bulletins for College, Experiment Station and Extension Division.

A. B., Huron College.

W. W. UNDERWOOD, 1916, Assistant County Agent Leader.

B. S. F., University of Minnesota.

GILBERT S. WEAVER, 1917, Extension Specialist in Animal Diseases.

V. S., Ohio State University.

*Resigned, May 1, 1920.

**Resigned, December 31, 1919.

COUNTY AGRICULTURAL AGENTS

County	Name	Address
BEADLE	Drake, O. P.	Huron
BROWN	Boardman, W. C.	Aberdeen
BUTTE	Ellison, A. D.	Belle Fourche
CLARK	Dexter, A. J.	Clark
CLAY	Griggs, W. D.	Vermillion
CODINGTON	Palm, A. W. (to March 1)	Watertown
CODINGTON	Ausman, L. V. (after Mar. 1)	Watertown
DAY	Gunning, J. A.	Webster
DEUEL	Jones, D. C.	Clear Lake
DEWEY	Hermstad, Oscar	Timber Lake
DOUGLAS	Brander, J. M.	Armour
EDMUNDS	Davis, Deane G.	Ipswich
FALL RIVER	Johnston, R. E. (to Feb. 1)	Hot Springs
FALL RIVER	Sloan, Sam L. (after Apr. 1)	Hot Springs
FAULK	Gilbert, Chas. J.	Faulkton
GRANT	Swedberg, J. I. (to Mar. 15)	Milbank
GRANT	Swift, H. M. (after Mar. 15)	Milbank
HAAKON	Sanderson, H. M.	Philip
HAMLIN	Tompkins, A. W.	Hayti
HAND	Aicher, E. H. (after Apr. 1)	Miller
HUGHES	Nelson, N. F.	Pierre
JACKSON	Johnson, Ira (after May 1)	Kadoka
JERAULD	Rilling, H. E.	Wess. Springs
JONES	Gamble, W. P.	Murdo
KINGSBURY	Lewallen, Dick	DeSmet
LAKE	Shearer, M. H. (after Feb. 1)	Madison
LAKE	Bibby, I. J. (to Feb. 1)	Madison
LAWRENCE	Kumlien, W. F. (to Feb. 15)	Spearfish
LYMAN	McCullough, H. D.	Kennebec
McCOOK	Winright, Geo. L.	Salem
MELLETTE	Lange, F. E.	White River
MINER	Swanson, R. O.	Howard
MINNEHAHA	Kennard, Geo. B. (to Mar. 1)	Sioux Falls
MINNEHAHA	Hamilton, J. H. (after Mar. 1)	Sioux Falls
MOODY	Wilson, H. B.	Flandreau
PENNINGTON	Smith, Homer W.	Rapid City
ROBERTS	Buchanan, R. R.	Sisseton

SPINK	.....Hall, E. W.	.....Redfield
STANLEY	.....Anderson, E. C. (after Feb. 1)	....Ft. Pierre
TURNER	.....Dunbier, O. B.	.....Parker
UNION	.....Crandall, P. J. (to May 1)	.....Elk Point
UNION	.....Haynes, A. L. (after May 1)	.....Elk Point
WALWORTH	.....Mills, Omer	.....Selby
YANKTON	.....Oppel, C. A.	.....Yankton

HOME DEMONSTRATION AGENTS

BROWN	.....Sloan, Edith A.	.....Aberdeen
CLARK	.....Dolve, Mary A.	.....Clark

COUNTY CLUB LEADERS

GRANT	.....Kiethline, May	.....Milbank
HAAKON	.....Peterson, Nellie	.....Philip
HAMLIN	.....Parker, E. A.	.....Hayti
MINNEHAHA	.....Bickel, Eva (after Apr. 1)	.....Sioux Falls
MINNEHAHA	.....Hamilton, J. H. (to Mar. 1)	.....Sioux Falls

DAIRY EXPERT AND ASSISTANTS

A. P. RYGER, 1909,	State Dairy Expert.
EDWARD P. LYNCH, 1919,	Assistant Dairy Expert.
	B. S., South Dakota State College.
TERRENCE A. MEEHAN, 1918,	Assistant Dairy Expert.
CLARENCE SHANLEY,* 1913,	Assistant Dairy Expert.
	B. S., South Dakota State College.
HAZEL J. COLEMAN,	Secretary to the Dairy Expert.

*Resigned November 1, 1919.

OTHER OFFICERS AND EMPLOYEES

ANNA ANDERSON,	Secretary to the Director of Extension.
R. H. ANDERSON,	Assistant in Auto-Tractor Course.
CHESTER S. BALL,	Assistant Secretary of the College.
ANNA CACH,	Manager of the College Book Store.
PHILIP W. HANSON,	Secretary to the Director of the Experiment Station.
ELMER J. HOLSTAD,	Secretary to the President.
A. T. LARSON,	College Engineer.
GEORGE E. PURDY,	Custodian of the Buildings and Grounds.
CLARA HOLMES,	Assistant Registrar.
GLEN D. WILLEY,	Assistant in the Auto-Tractor Course.

General Information

HISTORICAL SKETCH

Establishment.—An act of the Territorial Legislature approved February 21, 1881, provided that "an Agricultural College for the Territory of Dakota be established at Brookings, * * * provided that a tract of land of not less than eighty acres be secured and donated to the Territory of Dakota."

The legislature of 1883 provided for the erection of the first building. This building, now known as the Central Building, was opened for use September 24, 1884.

The Enabling Act admitting the state of South Dakota, approved February 22, 1889, provided that 120,000 acres of land be granted for the use and support of the agricultural college, as provided in the acts of congress making donations of lands for such purpose. The acts of congress here referred to are, primarily, the act of July 2, 1862, known as the Morrill Act, providing that 30,000 acres of public land for each representative in congress be given to each state towards "the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts."

By the Enabling Act of 1889 Congress granted to South Dakota for the Agricultural College 40,000 additional acres, in lieu of a grant that had been made to new states in 1841. Thus the total land grant for the Agricultural College was 160,000 acres.

In the Morrill Act of 1862, such colleges were spoken of as "Colleges of Agriculture and Mechanic Arts." In order that the name might more nearly conform to the object for which the College was established, the legislature of 1907 changed the name from "The Agricultural College of South Dakota" to "The State College of Agriculture and Mechanic Arts."

The *Experiment Station was organized in 1887, under the Hatch Act of Congress, which provided for the establishment of agricultural experiment stations in connection with agricultural colleges. These stations were established for the purpose of conducting experiments and research work in connection with all branches of the agricultural industries of the United States, due regard being paid to the varying conditions and needs of the respective states. It is also their object to aid in diffusing among the people useful and practical information on all subjects connected with agriculture. The South Dakota Station conducts its investigations chiefly along the following lines: Live stock, veterinary science, soils, field experiments, greenhouse work, trees and small fruits, injurious insects, and chemistry of plant growth and foods.

The *Extension Division was established to carry to the people of the state the results of the work of the College, and also the approved methods as practiced by the most successful farmers in the different localities. From its earliest history the College has sent out members of its staff to help the people of the state by addressing meetings, acting as judges at fairs and for agricultural clubs, and in various other ways. The College, however, had no money available to conduct such work in a systematic way until 1914, when the Smith-Lever Act was passed by Congress providing \$10,000 annually to each state beginning with July 1, 1914, to be used for agricultural extension work by the State Colleges of Agriculture in cooperation with the United States Department of Agriculture. The act also provides that beginning with July 1, 1915, additional amounts which increase from year to year are to be given to the different states upon the condition that the states appropriate equal amounts to be used in connection with the national fund for extension work.

Sources of Income.—A joint resolution passed by the legislature of 1890 accepted the lands granted in the enabling act. These lands were not at once assigned. The commissioner of Public Lands reported that 64,658 acres had been selected.

*See the index for references to additional information concerning the Agricultural Experiment Station and the Extension Division.

All have since been selected; very few have been sold. A small amount is received yearly as rental. The first income recorded was \$1,197.71, September 1, 1896. No school lands may be sold for less than ten dollars an acre. When all the land is sold it will yield an endowment of approximately three million dollars.

The Morrill Act passed by Congress in 1890 provides a yearly appropriation for "the more complete endowment and support of colleges for the benefit of agriculture and mechanic arts." Under this act the College now receives from the general government the sum of \$25,000 per annum.

An act making appropriation for the Department of Agriculture, approved by Congress March 4, 1907, provides for the further endowment and support of these colleges. The bill, which was introduced by Senator Knute Nelson, of Minnesota, stipulates that the expenditure of the fund shall be governed in all respects by the provisions of the Morrill Act, and also that a portion of the money may be used to provide for the training of instructors in agriculture and mechanic arts. This act made an appropriation of \$5,000 for the year 1907-1908, which increased \$5,000 each year until it reached \$25,000 per annum. The College, therefore, receives \$50,000 annually from the National Government for instructional purposes.

The College also receives aid from the State, biennial appropriations being made by the legislature for maintenance and buildings.

The Hatch Act provides that the experiment stations should receive \$15,000 annually from the National Government. This amount has been increased by the provisions of the Adams Act of 1906, so that the experiment station now receives \$30,000 a year for maintenance.

Under the Smith-Lever Act, the College receives \$10,000 annually from the National Government for extension work. Under the same act during the present year the College will receive \$26,723.17 additional, on the condition that an equal amount is provided by the state to be used with the national fund. The State Legislature appropriated \$51,000.00 to meet this fund for this fiscal year.

LOCATION, BUILDINGS AND EQUIPMENT

The Location.—The College is located upon an eminence one mile from the business center of Brookings, which has a population of about four thousand people. The city is situated on the Central Dakota Division of the Chicago & North-Western Railway, the Watertown branch making connection with the main line at this point.

Few educational institutions are more advantageously located. The campus, lying at the northwest corner of the City of Brookings, is approached by wide streets, now in process of paving, shaded with well grown trees. The lawns of the city are well kept and abound in ornamental plants and shrubs. The houses are nearly all modern in equipment, many of them are new and most attractive in appearance. City conveniences are provided mostly from municipal plants. There have been no saloons for over thirty years and the city atmosphere is favorable to the establishment and continuance of good habits.

The College Buildings and Grounds.—The college campus upon and about which the college buildings are placed is beautifully located on an eminence within the corporate limits of Brookings. It is ornamented with choice and tasteful varieties of trees and shrubs and laid out with necessary walks and drives. Adjoining on the rear are the horticultural gardens, and to the north and northwest is the college farm.

The oldest building on the campus, called the Central Building, was erected in 1884. This and the old North Building are given over to general class room and laboratory purposes.

The other old building recently known as the Experiment Station Building has been remodeled and now houses the Extension Division.

The Agricultural and Administration Building provides executive offices, an auditorium, laboratories, class rooms and offices for the various agricultural departments. This building has just been completed with a \$100,000.00 addition in which the Departments of Home Economics, Industrial Arts and Education are located.

The Physics-Engineering Building is occupied by the

physics and the engineering departments with their various class rooms, laboratories and shops.

The Plant Breeding Building, together with the large Greenhouse, furnishes room for the work that is being conducted by the departments of botany, horticulture and entomology.

The new Stock Judging Pavilion has a fine amphitheater into which stock used for judging may be brought, thus affording an unobstructed view for every student.

The Chemistry Building, a two-story structure, is occupied by the class rooms and laboratories of this department.

The Creamery is a two-story building which furnishes quarters for the department of dairy husbandry and a creamery which is conducted on a commercial scale.

The old Gymnasium, a two-story building, is used for the work in farm mechanics. This includes instruction in autos, tractors and farm machinery.

The new Armory provides offices, bath rooms, lockers, dressing rooms, target practice room, etc., for the departments of military and physical education. The main floor is 100 feet by 165 feet, free from supports, providing ample room for military drill and for athletics. A tract of land near the Armory has been fitted up for outdoor exercises and sports.

Wenona Hall and Wecota Hall are built adjoining each other, forming a splendid brick dormitory for young ladies, on a site just across the street from the campus. They will accommodate about one hundred eighty women.

The central heating and electric light plant occupies a brick structure in the rear of the campus. The buildings are all heated by steam and lighted by electricity generated in this plant.

Near the campus on the adjoining college farm are located the agricultural and the dairy barns, together with a number of smaller buildings which are devoted to agricultural purposes.

The Farm and Horticultural Gardens.—The College farm includes seven hundred acres, about sixty acres of which are used by the Agricultural Experiment Station as an experi-

mental farm. Here the field experiments with field crops, seed germination and soil preparation are conducted, and the students may witness and actually participate in this scientific work. The remainder of the farm is used as a model stock and dairy farm under the direction of the professor of animal husbandry. Practical work in experiments involving the best farming practices for this region are given the students.

The Horticultural Gardens comprise about fifty acres adjoining the campus. Here and in the Greenhouse a large amount of work in fruit propagation and plant experimentation is being carried on.

The Laboratories, Shops and Museums.—Well fitted laboratories and shops have been provided in all those departments where their use is made necessary by modern educational methods. The value of illustrative materials has been recognized, and numerous departments have made large collections and museums. The equipment of the various departments is described in connection with the description of their work.

The Library and Reading Room.—The library, occupying rooms on the first floor of the Central Building, contains over 24,000 bound volumes and about 8,000 pamphlets. The institution is a repository for the government and contains sets of government publications dating from 1886. Many of the more valuable sets have been extended to an earlier date. Care has been exercised in the selection of books in order that each department may have proper reference books at the disposal of the students. The books are arranged according to the Dewey system of classification and are completely catalogued in the card catalogue. The library also receives the cards from the government cataloguing the bulletins of the experiment stations and the publications of the United States Department of Agriculture. The files of many standard scientific and literary periodicals are kept bound. The reading room is abundantly supplied with current periodicals and newspapers. The library is open nearly all the time, day and evening, and is at the disposal of students for the purpose of study and reading. Someone is in charge at all times to give help and information to those using the library.

The Postal Facilities.—The College furnishes first-class postal facilities. Station A, Brookings, S. D., is a Federal Postoffice, located in the Administration Building at the College. Mail is delivered at convenient times during the day, making it unnecessary for students to go to the city post-office.

ORGANIZATION AND GOVERNMENT

The Board of Regents.—By an act of the legislature approved March 10, 1897, provision was made for the appointment of the Regents of Education, who have charge of all of the educational institutions which are maintained either wholly or in part by the state. The terms of office of the regents are each six years and expire at different times, so that the board is a continuous body. Appointments to the board are made by the Governor, with the approval of the senate, "of persons of probity and wisdom from among the best and best known citizens, residents of different portions of the state, none of whom shall reside in the counties in which any of the state educational institutions are located, who shall be designated as the Regents of Education."

Among the powers and duties of the regents as defined by law some important ones are, to employ members of the different faculties and other agents, to determine the proper number of teachers in said faculties, also their compensation and terms of employment, to establish departments, to settle upon the courses of study, to determine the rules to be enacted for the government of students, to decide upon text books to be used, to fix tuition fees, to guard against unwise duplication of departments, to confer degrees, to control the Agricultural Experiment Station, and to promote education among the farmers by providing for institutes; in fact, to make all regulations as to the executive and instructional functions of the educational institutions of the state. The regents govern the College largely through a regents' committee.

The Faculty.—The faculty, consisting of the president and professors, all of whom are elected by the regents, determines in large part the general policy of the College. The

professors are heads of the different departments of instruction which they represent and are responsible to the president, who is in charge of all matters of administration. The president, in turn, is responsible to the regents for the whole work of the institution. The president appoints, at the beginning of each college year, certain faculty committees which take up such work as may be assigned them by the president and faculty.

In the government of the College the faculty relies chiefly upon the sense of duty of the students. The student is expected to pursue his studies with diligence, to attend classes regularly and maintain good behavior at all times. Students are not only under the direct supervision of the faculty while on the campus, but are responsible for their conduct wherever they may be.

In order that the work of the College may be rendered as efficient as possible and all relations made harmonious, a set of regulations, chiefly governing matters of classification, has been adopted by the faculty. No set rules are expected to cover every condition that arises, and all students should recognize the importance of co-operation with the faculty in their efforts to make college life helpful to the student body as a whole.

STUDENT ACTIVITIES

Faculty Control.—While the students are allowed wide latitude in carrying on affairs which vitally concern themselves, such as athletic, literary, musical, social and other activities, the faculty retains an advisory interest in all such matters, and has the right at any time to pass reasonable regulations for the welfare of the College.

The Student Association.—The athletic, debating and oratorical interests, and the student publication, the *Industrial Collegian*, are under the control of the Student Association, which governs these activities by means of a board of control, consisting of students and members of the faculty. This board is organized into the Athletic, the *Collegian*, and the Debating Councils, each of which directs the respective in-

terests that come under it. A fee of \$3.00 a term (\$5.00 for the School of Agriculture term) is charged for membership, which admits the holder to all student activities under the supervision of the association and pays for a subscription to the Collegian.

The Women's League.—This is a self-government organization for women. Each woman by virtue of her registration is a member of the league and is expected to co-operate in carrying out the policies of the league.

Athletics.—Under the auspices of the local organization and a number of college athletic associations of the state, all kinds of athletic sports are practiced and encouraged. Students should understand, however, that their studies must receive the first consideration; and that the purpose of athletic exercises is to develop gentlemanly and ladylike qualities in those who participate in them.

Oratory and Debating.—Each year for a number of years representatives of the college have met students from other institutions in debating contests. The members of the local teams are chosen in a series of preliminary contests in which all are encouraged to take part. There has thus been aroused among the student body a large interest in this kind of work and a healthy rivalry to obtain places on the intercollegiate teams.

Upon the recommendation of the instructor in charge of debating, four credits are given a student who takes part in an intercollegiate debate.

A representative of the college is sent each year to the intercollegiate oratorical contest of the state. This student is selected by means of a local preliminary contest. In order that this contestant may fully represent the college, the faculty has imposed the requirement that those competing for this honor must be pursuing regular work for the Bachelor's degree.

The Student Publications.—The Industrial Collegian is a weekly paper published by the students of the College. It is intended to be a mirror of student life at this institution, and all phases of college activity have representatives on its staff of editors.

The Jack Rabbit is published annually by the junior class, and is a good representative and exponent of college life.

Members of the staffs of the Industrial Collegian and the Jack Rabbit may receive credit for work on these publications if this is done in cooperation with the department of Agricultural Journalism. (See courses of this department).

The Literary Societies.—The literary society is an important factor in the education of the students and all are strongly advised to take part in this kind of work. All preparatory students are expected to become members of the Franklin Society whose work is carried on under the supervision of the preparatory department.

The Christian Associations.—In the state schools the Young Men's and Young Women's Christian Associations occupy unique positions. They are the only organizations whose primary object is the moral development of the student body. Their platforms are broad enough to allow every student who stands for pure manhood and womanhood to affiliate himself or herself with them. The purpose of the associations is to present the value of Christian living to the student and to the state, and to create an atmosphere of good-fellowship among the members of the student body. Each association is represented by a local secretary and also by state and international college secretaries.

Other Student Organizations.—Among these may be mentioned the Art Club which encourages interest in art by bringing exhibits to the College and in various other ways; the Chorus, Orchestra, and Bands, which give a series of musical entertainments during the year; the Agricultural Club, the Engineering Club, the Pharmacy Club, the Home Economics Club and other organizations which promote interest along the various lines of college work.

Tuition and Other Fees.—The following tuition fees are charged:

For work arranged in three months terms, \$4 for the term. This includes the collegiate and preparatory work of

the college year, the auto-tractor course, and the three months creamery course.

For the School of Agriculture term of five months, \$6.00.

For the Summer School term of six weeks, \$5.

For special music fees, see the department of music.

No deduction in tuition fees is made when a student enters late.

A laboratory fee is charged for the use of each laboratory in which the student takes work, the amount of which will be found in the description of the subjects under the respective departments. Books and other supplies are furnished by the student.

As an inducement to students to register promptly, the Regents have imposed the rule that a tardy enrollment fee of twenty-five cents per day shall be collected of all students who enroll subsequent to the regular day announced for that purpose. However, in no case shall the tardy enrollment fee exceed one dollar and fifty cents.

By action of the regents the tuition and incidental fees and laboratory fees, after having been paid, will in no case be refunded; but music, dormitory and other fees may be refunded at the discretion of the president of the College, if the student is called away before the end of the term by unavoidable causes. Honorably discharged soldiers and sailors, residents of the State, by action of the State Legislature of South Dakota, are exempt from tuition in the various state institutions. In order to take advantage of this law students must exhibit their discharges or certified copies of them.

Estimate of Expenses.—On account of the rapidly changing financial conditions, it is not possible to make a very accurate estimate of the necessary yearly expenses of a student. At the present time, these are approximately as follows, for the college year:

Board and Room.....	\$300.00
Tuition	12.00
Fees in Student Association	9.00
Laboratory Fees.....	15.00
Books and Supplies.....	40.00
Laundry Expenses	25.00

Incidentals	40.00
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\$441.00

While the above is considered as a reasonable estimate, much depends upon the character of the student and the work he is taking.

Clothing is not included in the above estimate, since this item is approximately the same, whether the person is in college or not. However, men of the freshmen and sophomore classes are required to take military drill and are furnished uniforms by the War Department, thus being saved considerable expense. (See Military Department.)

Board and Rooms.—Good rooms and board can be obtained at private houses. The dormitories provide a large number of young ladies with comfortable homes at reasonable rates. (See following pages for details concerning the dormitory and college dining hall.) Every effort is made by the officers of the institution to secure suitable and satisfactory boarding places for students. A list of approved available places for boarding or rooming can be obtained at any time from the President of the College. The Christian Associations make it a point at all times to assist new students in finding proper living accommodations. If prospective men students will write to the secretary of the Young Men's Christian Association or women students to the Dean of women, these persons will be glad to arrange to meet them at the train and help them to secure boarding and rooming places.

Women students, excepting those living at home, are required to room in the college halls unless permission to live elsewhere is granted in advance by the college authorities. Men students must live in approved rooming places. Wherever students reside they are expected to conform to the general regulations made by the student government associations, governing absences from the home, visitors' hours, social engagements, study hours, etc.

Under no circumstances will men students be permitted to room in residences where women students, girls employed in or about the city, or any girls or women not members of

the housekeepers' immediate family are rooming. This rule applies conversely to women students.

The Women's Dormitories.—The two dormitories, Wenona Hall and Wecota Hall, will accommodate about one hundred seventy-five young women. Everything possible is done to make a real home for those who live there. The young women are given a large share in the government of the halls, and are thus encouraged to form orderly habits and high ideals of conduct.

Precautions have been taken to reduce danger from fire to a minimum. The buildings are heated with steam, lighted by electricity. Bath rooms, toilet rooms and lavatories are on each floor. In addition, each room is provided with a large closet, and a stationery wash stand with hot and cold water.

Each room is provided with two single cots or beds, mattresses, two straight chairs, study table, dresser with mirror, rug and window shades. Bedding, including pillows, towels and other articles must be provided by the students. Each girl should provide herself with mattress pad, two pairs of pillow cases, three sheets, two pairs of blankets, napkin ring, six towels and a clothes bag.

The cost of rooms in the halls for each occupant, two in a room, is \$15 for the term of three months, \$25.00 for the School of Agriculture term. This fee includes both light and heat. The room rent is payable in advance. The occupants will be expected to take care of their own rooms.

A student desiring a room reserved must forward \$5.00 with her application. This will apply on the regular room rent for the term. In no case will this advance payment be refunded after September first.

In connection with the dormitories, a large dining hall and cafeteria is conducted not only for the benefit of the young women who room in the buildings, but also for other students, both young women and young men, who room elsewhere. The cost of board is thus reduced to a minimum. During the past year table board has been \$5.00 a week. The cafeteria arrangement permits a wider selection of food at a reasonable rate. Owing to the unsettled conditions at the present time it is impossible to state what the cost of board

will be during the next year. However, the dining hall will be conducted so as to provide wholesome fare at minimum cost.

Payment for board in the dining hall must be made for four weeks in advance, and no deduction will be made for less than one week's absence.

Student Labor.—There is a limited amount of paid labor about the institution which can be done by students and it is the policy of the College authorities to give as much work to deserving students as is consistent with the best interests of all. However, no one should expect to earn his entire expenses while at college.

Scholarships.—The following articles from the law, defining the powers and duties of the regents of education, is self-explanatory: "The Regents of Education shall fix all rates of tuition and other fees to be paid by students, but such rates must be the same in all different institutions. They may receive free of tuition two students appointed by each senator and one by each representative of the state legislature in any one of the institutions under their control, provided that the period for which the appointment is made shall expire with the term of office of said senator or representative and provided that such appointees shall comply with all the rules and requirements of the institution which they desire to enter. No student, however, shall receive any other gratuity whatever." The regents of education make this article operative in the case of this institution. The student must present his appointment to the secretary of the College at the time of enrollment in order to obtain credit for the same.

ADMISSION

General Requirements.—Candidates for admission to any department of the College must be at least fourteen years of age (sixteen for admission to tractor and auto-mechanics course), and of good moral character.

The completion of a high school or preparatory course of four years is the standard for regular entrance to the freshman class.

The completion of the eighth grade is required of those who enter the Preparatory Department and the School of Agriculture. To enter the Tractor and Auto-Mechanics Course and the three-month dairy course a reasonable knowledge of the English language is necessary. Students of all courses may take a reasonable amount of work in music, but in general only persons who have completed the entrance requirements of the college courses may enroll in music alone.

All students should complete their registration on the days designated for this purpose at the beginning of each term and new students must present their credits at or earlier than this time if they expect to be assigned a proper classification.

Entrance Credits.—For admission to the four years courses leading to the degree of Bachelor of Science, and the courses in Pharmacy leading to the degrees of Pharmacy Graduate and Pharmaceutical Chemist, the student should present credit for fifteen units of high school or other secondary school work. A unit is a subject which is taught five periods a week throughout the school year, or the equivalent of this work. Of the fifteen units required, some are prescribed, the remaining units being in optional subjects as indicated in the table below.

A student who has graduated from an accredited high school course of four years will be enrolled as a member of the freshman class, but in case the prescribed subjects have not been completed, he may be required to bring up this back work.

A preparatory course is maintained for the benefit of students who are unable to attend a high school to complete the entrance requirements. Students will not be admitted to this department unless they present evidence that they have completed the work of the public schools as far as the ninth grade. For the preparatory course, see the Preparatory Department.

The list of prescribed and optional subjects is as follows:

Prescribed Units

English, three units in advance of grammar. These

should consist of composition work and a study of some of the simpler American and English classics.

Algebra, one and one-half units for engineering students, one unit for others. The fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and the analysis and solutions of problems involving these principles.

Plane Geometry, one unit. The completion of plane geometry. Special emphasis should be paid to the solutions of original problems and constructions. Students of engineering who have not completed solid geometry in the high school will be required to take the subject in the freshman year of the college course.

Elementary Physics, one unit. One year's work covering the science as presented in the best text books. Laboratory work should accompany the text book work.

History, one and one-half units. This work should follow, and not include, elementary United States history, and should be a connected study of some of the following lines: ancient, medieval, modern, English, and American history.

Civics, one-half unit. A study of the constitutions of the United States and of the state, as presented in the best high schools.

While foreign language is not required for entrance to the college courses, it is very desirable that students have two years work in German, French, Spanish, or Latin in preparation for their college work. Not less than one year of foreign language will be accepted for entrance unless the student continues the subject in the college until the unit is completed.

Optional Units

The three and one-half optional units may be offered in the same lines of work as the prescribed units and in other departments, as indicated by the table below. About the only requirement made concerning the work for which credit is offered is that it should be of a reasonably high standard. The maximum credit that is allowed in each subject is indicated in the table. While no minimum is stated it is expected that the student shall have covered a reasonable amount of a subject before receiving credit in it.

TABLE OF ENTRANCE REQUIREMENTS

	Prescribed Units	Maximum Allowed
Civics	$\frac{1}{2}$	1
English	3	4
History, following elementary U. S. History	$1\frac{1}{2}$	3
Mathematics—		
*Algebra, thru quadratics	1	2
Plane Geometry	1	1
Physics, Elementary	1	1
Optional—		
Agriculture		1
Biology		1
Bookkeeping		$\frac{1}{2}$
Botany		1
Commercial Geography		$\frac{1}{2}$
Cooking		$\frac{1}{2}$
Foreign Languages, French, German, Spanish or Latin		3
Freehand Drawing		1
Geology		$\frac{1}{2}$
Manual Arts, Woodwork and Forging		1
Mechanical Drawing		1
Physical Geography		$\frac{1}{2}$
Physiology		$\frac{1}{2}$
Sewing		$\frac{1}{2}$
*Solid Geometry		$\frac{1}{2}$
Zoology		$\frac{1}{2}$

*Solid geometry and one and one-half units of algebra are required of engineering students.

Advanced College Credit.—Advanced credit in the College may be obtained by presenting certified grades from other institutions of reputable standing or by examination. The College reserves the right, however, to cancel grades accepted from other schools should the student be found deficient in the subject for which he has received credit. A student entering with advanced credit may use these as electives in

the various college courses, in all of which there is more or less freedom in elective work. Reasonable substitutions of such credits for prescribed work is also allowed. Applicants for admission to the collegiate courses are strongly urged to submit their entrance and advanced credits by mail before the opening of the college year and thus facilitate the work of registration. The College will furnish such persons with application blanks, which, after being filled out with certified standings and other information, should be returned to the registrar.

SCHOLARSHIP AND REGISTRATION REQUIREMENTS

The Unit of Credit.—A credit or credit hour is the measure of the work done in carrying a subject for one term with one recitation a week or its equivalent. In work of college rank a recitation is intended to be accompanied by one and a half to two hours of preparation. Three hours in the laboratory where no outside work is required is counted as one credit.

In preparatory or other secondary work the student is expected to spend at least one hour in preparation for a recitation, and two hours of laboratory work counts as one credit.

Grades and Grade Points.—The work of students is graded by means of letters to each of which is assigned a certain value in grade points.

M (Medium) means that the student's work is of medium or average grade.

S (Superior) means that the work is above the average but not as high as

E (Excellent), meaning that the work is so far above the average as to merit special mention.

I (Inferior) means that the work is below the average, but not so low as

P (Passed), meaning that the student has only a sufficient knowledge of the subject to make it unprofitable for him to repeat the subject.

C (Conditioned) means that the work of the student has

not been satisfactory, but that it may be brought up to a passing grade without being repeated in the class, provided this is done according to the rules prescribed below.

D (Deferred) means that the students' work has been qualitatively satisfactory, but that for some reason beyond his control, part of the subject has not been completed.

F (Failed) means that the work of the student has been so poor that he should repeat the subject with the regular class in order to secure a passing grade.

Each instructor reports a grade for every student of his classes by means of the letters M, S, E, I, P, F, C and D and also makes an auxiliary report to the Registrar, giving information as to why the grades C and D are assigned.

The grades M, S, E, I, P and F, after having been reported to the registrar, may not be changed except by faculty action.

The marks C and D may be changed according to the following rules.

The Removal of C and D Marks.—The marks C and D may be removed in one of three ways:

First, by repeating the subject with the class.

Second, by continuing the subject the following term, in case the subject is continued, and carrying the advanced work creditably. The instructor may require the student to do whatever extra work he may deem advisable in bringing up the deficient subject.

Third, by doing special work in the subject as the instructor may prescribe.

The mark C can not be converted into a grade higher than P unless the subject is repeated with the class. This does not apply to the mark D.

If the marks C and D are not removed before the subjects in which they are received are repeated the following year, they become F.

A student shall not be allowed to make up work to remove the marks C and D, or any new work, while enrolled in the College unless the subject is entered on his registration card by his classifying officer. When the College is not in session the approval of the Dean should be secured.

A subject in which F has been received must be repeated the next time it is regularly offered, provided it is prescribed in the course of study the student is following.

Grade Points.—Grade points are assigned to the letters for each credit as follows:

E—1.4 grade points.

S—1.2 grade points

M—1 grade point

I—.8 grade points.

P—.6 grade points.

C, D and F—No grade points.

In general, the number of grade points required for graduation in any collegiate course is equal to the number of credits required. This rule will be applied to grades earned after June, 1920.

Advanced credit from other colleges will be accepted for grade points on the same basis as M, that is, one credit to one grade point.

Registration.—In registering for work the student is advised by a member of the faculty who helps him to make out a consistent schedule of studies. In general he is expected to classify in the normal amount of work in the scheme of study he is pursuing. This is usually 17 credit hours in the college courses and 20 credit hours in the secondary courses.

The student of college rank will not be allowed to register in more than eighteen credit hours the first term of his attendance, and not more than eighteen hours any subsequent term unless his work during the preceding term is of a high character, and then only by special action of the faculty committee in charge of registration.

Elective Work.—Unless there are statements to the contrary, elective work in the college schemes of study may be chosen from any subjects offered for college credit in the different departments. It is recognized that music, the fine arts, typewriting, and a few other subjects may have a place in a well balanced course of study and the student may present for graduation a limited amount of credit from these lines of work. See page 66 for statement concerning elective work in these subjects.

Military Requirements.—The national law organizing and endowing the state agricultural colleges requires that military science shall form a part of the instruction offered. All male students below the junior year are required to take military drill three times a week unless excused because of physical disability or for some other reason. Certificates of disability should be obtained from the physician whom the College authorities have designated for such work, the College bearing the expense of the examination.

Under the provisions of the law establishing the Reserve Officers Training Corps in this and other educational institutions, men of the junior and senior classes who have completed the required military work of the freshman and sophomore years may elect military science during the remainder of their course, and thus receive commutation of clothing and board from the National Government. For further regulations governing the work see the military department.

Conditioned Students.—Any student who without good reason has failed to receive a passing grade in a reasonable amount of his work will be registered only conditionally for further work. And if any student at any time is not carrying the work in which he is classified at a passing grade, or fails to perform other duties which may be expected of him, he may be placed upon the conditioned list and thus debarred from certain student privileges, or he may be dropped from the college.

Absences.—Ample provision is made for granting excuses on reasonable and legitimate grounds and an unexcused absence is looked upon as an offense against good conduct. The faculty formulates such rules and regulations governing absences as it may deem advisable. Everything possible is done to assist students to bring up work that has been missed because of sickness or for other good reasons.

DEGREES AND CERTIFICATES

Degrees.—The courses of study leading to degrees given by the College are outlined on pages 46-65, and are as follows:

The four years courses in Agriculture, in which the student has the opportunity of specializing along the lines of animal husbandry, dairy husbandry, agronomy, horticulture, plant pathology or teacher training. Upon the completion of one of these schemes, under the direction of the head of the department in which the group of electives is chosen, the student will receive the degree of Bachelor of Science in Agriculture.

The courses in Home Economics, each of four years, leading to the degree of Bachelor of Science. These include a general course, and courses in which the student may specialize in food and dietetics, clothing and millinery, or in teacher training work. For details concerning the teacher training work see the department of education.

The four years courses in Mechanical, Electrical and Civil Engineering, leading to the degree of Bachelor of Science in Engineering. In order to meet the constantly increasing demand for better equipped and more thoroughly trained men along the several lines of engineering activities, an additional fifth year's course of study is offered in each of the three engineering departments. Upon the completion of this additional year's work, the advanced degree, Mechanical Engineer, Electrical Engineer or Civil Engineer, will be conferred. This work, which is nearly all prescribed, is a continuation of the work pursued in the undergraduate courses, and is intended more fully to equip the student with special training along the particular line of work which he desires to pursue after leaving college.

The two years course in Pharmacy, leading to the degree of Pharmacy Graduate.

The three years course in Pharmacy leading to the degree of Pharmaceutical Chemist. This course includes the work of the two years course with an additional year's work.

The student who completes either of the two preceding schemes of study may continue his work according to the prescribed plan and complete a four years course in Pharmacy leading to the degree of Bachelor of Science.

The four years course in General Science, leading to the degree of Bachelor of Science. The work of this course is

largely elective and is planned to give the student a liberal education, at the same time permitting specialization in the sciences.

The four years course in Commercial Science, leading to the degree of Bachelor of Science.

The degree of Master of Science is offered to students who have received the bachelor's degree either from this institution or from other institutions of equal rank, and who in addition have completed at least one full year's resident work, i. e., fifty-one credit hours, in advanced study and have shown a reasonable proficiency in such work. Approximately two-thirds of this work should be in some one line of study, called the major work, and one-third in some other line called the minor work. The scheme of study for the degree must be prescribed by the faculty committee on advanced degrees, who will outline the work in consultation with the head of the department in which the major work is taken. It should be understood that the work for this degree can not be subjected to rigid regulation, and that each case must be dealt with on its individual merits.

Owing to the great demand for county agricultural agents and extension workers the College will give instruction along these lines to a limited number of graduates in Agriculture. Such persons should show some special fitness for the work they wish to take up. The instruction will consist of lectures on extension history, methods of conducting extension work, legislation, and other topics; the assisting of county agents and the carrying out of projects. The work will be varied according to the line that the student wishes to pursue. This work will be carried on in connection with the agricultural departments of the College and may be applied towards completing the requirements for the degree of Master of Science.

Special and Secondary Courses.—The College offers courses in several important and practical lines of work in addition to the courses of study for degrees. These are mentioned elsewhere in the catalog under the proper headings, and are as follows:

The four years preparatory course. See the Preparatory Department.

The four years course in the secondary school of agriculture. See the School of Agriculture.

The one year course in farm mechanics and auto tractor work. See Tractor and Auto Mechanics Course.

The three months creamery course. See the Practical Creamery Course, Dairy Husbandry Department.

The six weeks summer session. See the Summer School.

Courses in vocal and instrumental music. See Music Department.

Special work in art. See Art Department.

Special work in manual arts for the training of teachers. See Manual Arts Department.

The one year secretarial course. See Department of Commerce.

Special work in printing. See Department of Printing below.

DEPARTMENT OF PRINTING

To meet the ever increasing demand for linotype operators, pressmen, and compositors, the College has installed a complete printing plant consisting of a three-magazine typesetting machine, cylinder and platen presses, folder, stitcher and composing room equipment. Practical courses will be offered to give the students a training that will enable them to fill positions in the average shop as compositor, pressman or foreman. For more complete information regarding the work of this department write to the College.

THE SUMMER SCHOOL

The work of the Summer Session is planned especially for those who desire training along the industrial lines—Agriculture, Manual Training, Home Economics and allied subjects, either to secure college credits or to prepare for teaching.

The vocational field offers excellent opportunities to teachers, the demand far exceeding the supply. The College is primarily a vocational institution and one of its principal functions is to train teachers along vocational lines, its shops, laboratories, experimental plots, and live stock being available for this purpose.

In addition to members of the regular college staff, a number of special instructors and lecturers are employed during the session.

The tuition is \$5.00 for the term of six weeks, small additional fees being charged in laboratory subjects to pay for the material that is used.

Good rooms may be secured by men students in the city at reasonable rates, and by women students in the college dormitories. A dining hall is conducted in connection with the dormitories for both men and women, board being furnished practically at cost.

The Summer Session of 1920 will begin June 28, and close August 6.

Work will be given along the following lines:

Agriculture—Elementary Agriculture, Stock Judging, Farm Dairying, Soils and Crops, Poultry Culture, and special work for those interested in teaching vitalized agriculture in the common schools.

Home Economics—Cookery, Serving, Practice Cottage, Sewing, Dressmaking, Handwork, and Drawing.

Mechanic Arts—Woodworking, Joinery and Cabinet Construction, Finishing, Mechanical Drawing, Auto Repairing, and special courses for rural school teachers.

Commercial Branches—Bookkeeping, Shorthand, Typewriting, Penmanship, and Business Law.

Education—Educational Psychology, Principles of Teaching, General Vocational Education, Agricultural Education.

Social Sciences—Rural Sociology, Agricultural Economics, Industrial History of the United States.

The Sciences—Chemistry, Physics, Nature Study, Organic Evolution, Sanitation, Physiology.

English—Rhetoric, English Literature, American Literature.

Special Work for Rural Teachers—Primary Methods, Grammar, History, Civics, Geography, Algebra, Geometry.

For further information write for special Summer School Bulletin, addressing the Registrar, State College, Brookings, South Dakota.

THE AGRICULTURAL EXPERIMENT STATION

Under the provisions of the Hatch Act of March 2, 1887, and the Adams Act of March 20, 1906, the state receives annually \$30,000 from the treasury of the United States for the maintenance of an experiment station. By an act of the legislature this institution was made a part of the South Dakota Agricultural College. Its object is to investigate along agricultural lines, publish the results in bulletin form and distribute them to the residents of the state for their information and benefit. It consists of five divisions, namely: agronomy, animal husbandry, dairy, entomology and horticulture.

Each of these divisions is in charge of an expert who is also professor of the same subject in the College.

About sixty acres of the college farm are set aside for experiments in crop rotation and testing varieties of grains.

Another tract of sixty acres is utilized for experiments along horticultural lines, where trees, shrubs and vines are grown in profusion. Adaptation of grains, grasses, forage plants, fruits, trees, shrubs and vegetables for the Northwest is being carried on in co-operation with the United States Department of Agriculture and as a result many valuable varieties have been introduced which probably would not otherwise have reached us.

Each division is provided by the state with the proper facilities to conduct investigations, and at least four bulletins are published annually, which are free to residents of the state. Inquiries pertaining to the various agricultural interests are answered promptly. The regular mailing list of the station numbers over 22,000 names.

All communications to this department should be addressed to the Director, Agricultural Experiment Station, Brookings, South Dakota.

THE AGRICULTURAL EXTENSION DIVISION

In 1914 Congress passed the Smith-Lever Act, appropriating a sum of money to the various states in which Agri-

cultural Extension Work including home economics should be established. The state of South Dakota in its last legislative session appropriated sufficient funds to meet the requirements of the Federal Act. In addition it appropriated \$51,000 for County Farm Bureau work for the biennial period. Activities are carried on under the project plan as follows:

1. Administration.
2. County Agent Work.
3. Short Course Work.
4. Boys and Girls Club Work.
5. Home Economics.
7. Farm Management.
8. Livestock Improvement.
9. Agricultural Engineering.
10. Horticulture.
11. Animal Disease Control.
12. Agronomy.

Any county in the state may secure the benefits of Federal and State appropriations in the following manner: It shall be lawful for 50 or more freeholders residing in at least one-third of the congressional townships of the county, to organize and incorporate a County Farm Bureau. The members of the association shall pay a membership fee of one dollar and shall file articles of incorporation with the Secretary of State, and elect a Board of Directors. The directors may secure an appropriation from the County Board of Commissioners which may be deposited with the Treasurer of State and be augmented from the state funds by 60 per cent of the amount so deposited. The county is then in a position to ask for Federal assistance.

The state law provides for the conducting of demonstration courses in Agriculture and Home Economics in all counties not employing a county agent. This work is under the immediate supervision of the Short Course Leader and is conducted during the late fall and winter months. It takes the place of Farmers' Institutes of former years.

Boys and Girls Club Work is carried on in cooperation with the county superintendent of schools and through the County Farm Bureau. This work is in charge of a State Club

Leader. It consists in the organization of boys and girls between the ages of 10 and 18 years into clubs for the purpose of growing corn, economical pig raising, gardening and canning, bread and garment making, etc.

The Federal emergency appropriation ceased July 1st, 1919, and most of the counties organized under the Emergency Act have continued as permanent counties under our State law.

Some counties maintain, in addition to the county agent, a home demonstration agent or a boys' and girls' club leader.

Communications to this division should be addressed to the Director of Extension, State College, Brookings, South Dakota.

PLANS OF THE COLLEGIATE COURSES OF STUDY

On the following pages are outlined the following courses of study:

- The four years courses in Agriculture.
- The four years courses in Home Economics.
- The four years courses in Engineering.
- The four years course in Pharmacy.
- The four years course in Commercial Science.
- The three years course in Pharmacy.
- The two years course in Pharmacy.
- The four years course in General Science.

For entrance to these courses the student should have completed a four years course in an accredited high school or present fifteen units of entrance credit as indicated under "Entrance Requirements."

THE FOUR YEARS AGRICULTURAL COURSES

As indicated in the scheme outlined below, the freshman and sophomore years and certain subjects of the junior and senior years are prescribed for all agricultural courses. At the beginning of the junior year, the student is expected to select one of the following groups: Agricultural Education, Agronomy, Animal Husbandry, Dairy Husbandry, and Horticulture.

Upon the completion of the prescribed subjects and additional elective work to make 204 term credits, with 204 grade points, the student may receive the degree of Bachelor of Science in Agriculture.

Agricultural Courses

Freshman Year

	Fall	Winter	Spring
Inorganic Chemistry, Chemistry 1a, 1b, 1c ..	3	3	3
Rhetoric, English 1a, 1b, 1c	3	3	3
Stock Judging, Animal Husbandry 1a, 1b ..	4	2	
Grain and Root Crops, Agronomy 1a, 1b		3	3
General Horticulture, Horticulture 1a			2
General Botany, Botany 1a, 1b, 1c	3	3	3
Trigonometry and Physics,* 2a, 2b, 2c, or elective	3	3	3
Military Drill, Military 1a, 1b, 1c	1	1	1
Personal Hygiene, Zoology 7	$\frac{1}{2}$		
	<hr/> 17 $\frac{1}{2}$	<hr/> 18	<hr/> 18

Sophomore Year

Organic Chemistry, Chemistry 2	5		
Quantitative Analysis, Chemistry 3		3	
General Principles Poultry Culture, Poultry Culture 1			3
General Horticulture, Horticulture 1b	2		
Agricultural Entomology, Entomology 1a, 1b		3	3
General Bacteriology, Zoology 4		4	
General Zoology, Zoology 1a, 1b	3	3	
Live Stock Management, Animal Husbandry 6			2
Veterinary Physiology, Veterinary 1			3
Survey of English Literature, English 6a, 6b, 6c or			

*Physics will be required of students of the course who have not presented elementary physics for entrance.

Survey of American Literature, English

7a, 7b, 7c	2	2	2
Public Speaking, English 20a, 20b, 20c	1	1	1
Farm Dairying, Dairy Husbandry 1a, 1b	3		3
Military Drill, Military Science 2a, 2b, 2c....	1	1	1
	<hr/>	<hr/>	<hr/>
	17	17	17

AGRICULTURAL EDUCATION GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c	4	4	4
Industrial History, History 3a, 3b		3	3
Heredity, Botany 8	3		
Psychology, Education 1	4		
Vocational Agricultural Education, Educa- tion 3		3	
Principles of Teaching, Education 2			4
*Forging, Mechanical Engineering 3			1
*Carpentry, Manual Arts 2		3	
Electives	6	4	5
	<hr/>	<hr/>	<hr/>
	17	17	17

Senior Year

Economics, History 21	4		
Agricultural Publicity, Ag. Journalism 1		2	
Animal Nutrition, Animal Husbandry 4	3		
History of Education, Education 4		4	
Special methods in Teaching Vocational Agriculture, Education 6			4
**Practice Teaching in Agriculture, Educa- tion 10			4
Elective	10	11	9
	<hr/>	<hr/>	<hr/>
	17	17	17

Electives in teacher training courses should be chosen from the following and along two or more lines:

*Any term.

**Practice teaching and electives in education any term.

1st Group—		
Educational Measurement, Education 15	4	
Rural Education, Education 12	4	
Educational Sociology, Education 11	4	
Vocational Secondary Education, Education 13	4	
Project Work, Education 14	5	
2nd Group—		
Advanced Stock Judging, Animal Husbandry 2	3	
Non-Contagious Diseases, Veterinary 5	3	
Stock Feeding, Animal Husbandry 5	3	
Live-Stock Production, Animal Husbandry 8	4	
Contagious Diseases, Veterinary 6	4	
3rd Group—		
Crop Breeding, Agronomy 2a, 2b	6	
Seed Inspection, Agronomy 5	3	
Field Management, Agronomy 3	3	
4th Group—		
Landscape Gardening, Horticulture 8	3	
Forestry, Horticulture 2	2	
5th Group—		
Agricultural Economics, History 22	4	
Rural Sociology, History 32	4	

AGRONOMY GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c	4	4	4
Industrial History, History 3a, 3b		3	3
Heredity, Botany 8	3		
Crop Breeding, Agronomy 2a, 2b		3	3
Seed Inspection Agronomy 5	3		
Elective	7	7	7
	<hr/>	<hr/>	<hr/>
	17	17	17

Senior Year

Economics, History 21	4		
Geology, Agronomy 14	5		
Agricultural Publicity, Agricultural Journalism 1		2	
Forage Crops, Agronomy 4			3
Animal Nutrition, Animal Husbandry 4	3		
Meteorology, Agronomy 15		3	
Elective	5	12	14
	<hr/>	<hr/>	<hr/>
	17	17	17

ANIMAL HUSBANDRY GROUP**Junior Year**

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c	4	4	4
Industrial History, History 3a, 3b		3	3
Animal Nutrition, Animal Husbandry 4	3		
Stock Feeding, Animal Husbandry 5		3	
Live Stock Production, Animal Husbandry 8 .			4
Elective	10	7	6
	—	—	—
	17	17	17

Senior Year

Economics, History 21	4		
Agricultural Publicity, Agricultural Journalism 1		2	
Heredity, Botany 8	3		
Animal Breeding, Animal Husbandry 3		4	
Advanced Stock Judging, Animal Husbandry 2	5		
Live Stock History, Animal Husbandry 7			4
Elective	5	11	13
	—	—	—
	17	17	17

DAIRY HUSBANDRY GROUP**Junior Year**

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c	4	4	4
Industrial History, History 3a, 3b		3	3
Dairy Bacteriology, Dairy Husbandry 3	5		
Dairy Inspection, Dairy Husbandry 2		5	
Animal Nutrition, Animal Husbandry 4	3		
Dairy Management, Dairy Husbandry 6			5
Elective	5	5	5
	—	—	—
	17	17	17

Senior Year

Heredity, Botany 8	3		
Economics, History 21	4		
Agricultural Publicity, Agricultural Journalism 1		2	
Advanced Judging Dairy Cattle, Dairy Husbandry 13	2		
Factory Operation, Dairy Husbandry 3	5		
Advanced Dairy Inspection, Dairy Husbandry 11		4	
Dairy Technology, Dairy Husbandry 7			5

Dairy Seminar, Dairy Husbandry 14			2
Elective	3	11	10
	<hr/>	<hr/>	<hr/>
	17	17	17

HORTICULTURAL GROUP**Junior Year**

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c	4	4	4
Heredity, Botany 8	3		
Industrial History, History 3a, 3b		3	3
Forestry, Horticulture 2	2		
Landscape Gardening, Horticulture 8	2		
Plant Physiology, Botany 3			3
Plant Diseases, Botany 4		3	
Tree Fruit Culture, Horticulture 3a, 3b	2		2
Elective	4	7	5
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	17	17	17

Senior Year

Economics, History 21	4		
Economic Entomology, Entomology 2a, 2b ..	3	3	
Agricultural Publicity, Agricultural Journalism 1		2	
Agricultural Economics, History 22		4	
Marketing and Cooperation, History 23			3
Plant Breeding, Horticulture 6			2
Small Fruit Culture, Horticulture 5			2
Systematic Pomology, Horticulture 4	2		
Home Vegetable Gardening, Horti- culture 10			2
Nursery Practice, Horticulture 7a, 7b	2		2
Plant Materials, Horticulture 17			2
Horticultural Problems, Horticulture 15	1	1	1
Elective	5	7	3
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	17	17	17

Alternate I. Those who specialize in Market Gardening should substitute Advanced Vegetable Gardening, Horticulture 11, and Commercial Vegetable Gardening, Horticulture 12, for Nursery Practice, Horticulture 7a, 7b, and Home Vegetable Gardening, Horticulture 10.

Alternate II. Those who specialize in Landscape Gardening should substitute Landscape Design, Horticulture 14a, 14b, 14c for Systematic Pomology, Horticulture 4, Small Fruit Culture, Horticulture 5, Home Vegetable Gardening, Horticulture 10 and Marketing and Cooperation, History 23.

THE FOUR YEARS COURSES IN HOME ECONOMICS

These courses are designed to permit students to obtain a broad general training in home economics or to specialize along one of the three lines, foods and dietetics, clothing and millinery, and teacher training work in home economics.

As indicated in the schemes outlined, the subjects of the freshman and sophomore years, and certain subjects of the junior and senior years are the same for all. At the beginning of the junior year the student is expected to select one of the four groups mentioned. Upon the completion of the prescribed work and sufficient elective work in addition to make 204 term credits, with 204 grade points, the degree of Bachelor of Science may be received.

Home Economics Courses

Freshman Year

	Fall	Winter	Spring
Rhetoric, English 1a, 1b, 1c	3	3	3
Inorganic Chemistry, Chemistry 1a, 1b, 1c ..	3	3	3
Design, Art 2a, 2b, 2c	2	2	2
Food Preparation and Marketing,			
Home Economics 1a, 1b	4	4	
Household Physics, Physics 3			4
Elementary Sewing, Home Economics 9a, 9b .	3	4	
Textiles and Laundry, Home			
Economics 10			4
Hygiene and Social Usage, Home			
Economics 20, 21	1		
Physical Education 1a, 1b, 1c	1	1	1
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	17	17	17

Sophomore Year

Survey of English Literature, English			
7a, 7b, 7c or			
Survey of American Literature, English			
6a, 6b, 6c	2	2	2
Zoology and Physiology, 1a, 1b, 1c	3	3	3
Organic Chemistry, Chemistry 2	5		
Chemistry of Nutrition, Chemistry 6		4	
Bacteriology, Zoology 4			4
Food Preparation, Home Economics 2a, 2b,..	3	4	
Dressmaking, Home Economics 11			4

PLANS OF STUDY

53

Public Speaking, English 20a, 20b, 20c	1	1	1
Physical Education 2a, 2b, 2c	1	1	1
Elective	2	2	2
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GENERAL GROUP

Junior Year

	Fall	Winter	Spring
Psychology, Education 1	4		
Home Nursing, Home Economics 8		3	
Dietetics, Home Economics 5a, 5b		4	3
Dressmaking, Home Economics 12	3		
Household Chemistry, Chemistry 5			3
Applied Design, Art 3a	2		
House Decoration, Art 3b		2	
Costume Design, Art 3c or Crafts			2
American Government, History 11	4		
Elective	4	3	9
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	17	17	17

Senior Year

Economics, History 21	4		
Sociology, History 31		4	
Rural Sociology, History 32			4
Household Management, Home Economics 15a, 15b	3	3	
Americanization, History			4
Millinery, Home Economics 14		4	
Practice Cottage, Home Economics 16 (4) and Elective in Home Economics (4) and Demonstration work in Home Economics, Home Economics 7 (4)	4	4	4
Elective	6	2	5
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CLOTHING AND MILLINERY GROUP

Junior Year

	Fall	Winter	Spring
Psychology, Education 1	4		
Applied Design, Art 3a	2		

House Decoration, Art 3b	2		
Costume Design, Art 3c			2
Household Chemistry, Chemistry 5			3
Dressmaking, Home Economics 12	3		
Dietetics, Home Economics, 5a, 5b		4	3
Home Nursing, Home Economics 8		3	
American Government, History 11	4		
Elective	4	8	9
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	17	17	17

Senior Year

Economics, History 21	4		
Sociology, History 31		4	
Household Management, Home Economics 15a, 15b	3	3	
Millinery, Home Economics 14		4	
Practice Cottage, Home Economics 16 (4) .. and			
Elective in Clothing, (3 or 4)	4		3 or 4
Americanization, History			4
Elective	6	6	10 or 9
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FOODS AND DIETETICS GROUP

Junior Year

Psychology, Education 1	4		
Drafting and Dressmaking, Home Economics 12	3		
Dietetics, Home Economics 5a, 5b		4	3
Applied Design, Art 3a	2		
House Decoration, Art 3b		2	
Costume Design, Art 3c or Crafts			2
Home Nursing, Home Economics 8		3	
American Government, History 11	4		
Household Chemistry, Chemistry 5			3
Elective	4	8	9
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	17	17	17

Senior Year

Economics, History 21	4		
Sociology, History 31		4	
Household Management, Home Economics 15a, 15b	3	3	
Institutional Management, Home Economics 17			5
Practice Cottage, Home Economics 16 (4)			

and			
Demonstration Work in Home Economics,			
Home Economics 7 (3)	4	3	
Americanization, History		4	
Elective	10	6	5
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TEACHER TRAINING GROUP

Junior Year

Psychology, Education 1	4		
History of Education, Education 4		4	
Principles of Teaching, Education 2			4
Household Chemistry, Chemistry 5			3
Applied Design, Art 3a	2		
House Decoration, Art 3b		2	
Costume Design, Art 3c or Crafts			2
Dietetics, Home Economics 5a, 5b		4	3
Dressmaking, Home Economics 12	3		
Home Nursing, Home Economics 8		3	
American Government, History 11	4		
Elective	4	4	5
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	17	17	17

Senior Year

Economics, History 21	4		
Sociology, History 31		4	
Household Management, Home Economics			
15a, 15b	3	3	
Practice Teaching Education 9 (3)			
and			
Practice Cottage, Home Economics 16 (4)			
and			
Home Economics Elective (3)	3	3	4
Special Methods Teaching Home Economics,			
Education 7a, 7b	3	3	
Demonstration Work in Home Economics,			
Home Economics 7			4
Americanization, History			4
Elective	4	4	5
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	17	17	17

THE FOUR YEARS COURSES IN ENGINEERING

The college offers courses in Mechanical, Civil and Electrical Engineering. As indicated below, the work of the freshman and sophomore years is the same for all three of these courses, with the exception that in the sophomore year students of Civil Engineering take topographical surveying instead of machine shop which is required of students of Mechanical and Electrical Engineering.

The course in Civil Engineering gives an option in the senior year which permits students to prepare themselves for work in highway engineering, in which there are now many opportunities for trained civil engineers.

Upon the completion of the prescribed subjects and additional elective work to make 204 term credits, with 204 grade points, the student may receive the degree of Bachelor of Science.

Engineering Courses Freshman Year

	Fall	Winter	Spring
Inorganic Chemistry, Chemistry 1a, 1b, 1c ..	3	3	3
Rhetoric, English 1a, 1b, 1c	3	3	3
College Algebra, Mathematics 2	5		
Trigonometry, Mathematics 3		5	
Analytic Geometry, Mathematics 4			5
Engineering Drawing, Mechanical Engineering 3a, 3b	3	2	
Forging, Mechanical Engineering 1a	2		
Machine Shop, Mechanical Engineering 2a ...		3	
Descriptive Geometry, Mechanical Engineering 5			2
Plane Surveying, Civil Engineering 1			3
Hygiene, Zoology 7	$\frac{1}{2}$		
Military Drill, Military Science 1a, 1b, 1c	1	1	1
	<hr/> 17 $\frac{1}{2}$	<hr/> 17	<hr/> 17

Sophomore Year

Calculus, Mathematics 5a, 5c	5	5	
Analytic Mechanics, Mathematics 6			5
General Physics, Physics 1a, 1b, 1c	4	4	4
Survey English Literature, English 6a, 6b, 6c or			
Survey American Literature, 7a, 7b, 7c	2	2	2
Public Speaking, English 20a, 20b, 20c	1	1	1
Applied Electricity, Elec. Engineering 1a, 1b	1	1	

Machine Shop (Mechanical Engineering and Electrical Engineering students), Mechanical Engineering 2b, or Topographical Surveying (Civil Engineering students), Civil Engineering 2	3		
Machine Design, Mechanical Engineering 6 ..		3	
Elements of Mechanism, Mechanical Engineering 7			4
Military Drill, Military Science 2a, 2b, 2c	1	1	1
	<hr/> 17	<hr/> 17	<hr/> 17

MECHANICAL ENGINEERING**Junior Year**

	Fall	Winter	Spring
Hydraulics, Civil Engineering 4	4		
Steam Engines and Thermodynamics, Mechanical Engineering 9a, 9b	3	3	
Steam Boilers, Mechanical Engineering 10...			3
Electricity and Magnetism, Electrical Engineering 3	5		
Machine Design and Kinematics, Mechanical Engineering 8	3		
Mechanics of Materials, Mechanical Engineering 6a, 6b		4	3
Dynamos and Motors, Electrical Engineering 4		5	
Graphic Statics, Civil Engineering 5		3	
Alternating Currents, Electrical Engineering 5			5
Stresses, Civil Engineering 8			4
Elective	2	2	2
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Masonry and Concrete, Civil Engineering 9 ..	3		
Economics, History 21	4		
Engineering Laboratory, Mechanical Engineering 12a, 12b, 12c	2	2	2
Advanced Alternating Currents, Electrical Engineering 6	5		
Reinforced Concrete, Civil Engineering 10 ..		3	
Engineering Design, Mechanical Engineering 11		5	
Electric Lighting, Electrical Engineering 7		5	
Contracts and Specifications, Civil Engineering 21			2
Power Plant Design, Mechanical Engineering 15			4
Heating and Ventilation, Mechanical Engineering 14			3

Gas and Oil Engines, Mechanical Engineering 13			2
Elective	3	2	4
	<hr/>	<hr/>	<hr/>
	17	17	17

CIVIL ENGINEERING

Junior Year

	Fall	Winter	Spring
Hydraulics, Civil Engineering 4	4		
Water Supply, Civil Engineering 13			
or			
Topographical Drawing, Civil Engineering 3..	3		
Electricity and Magnetism, Electrical Engineering 3	5		
Steam Engines, and Thermodynamics, Mechanical Engineering 9a, 9b	3	3	
Mechanics of Materials, Civil Engineering 6a, 6b		4	3
Graphic Statics, Civil Engineering 5		3	
Railroad Surveying, Civil Engineering 7			
or			
Sewerage, Civil Engineering 14		3	
Roads and Pavements, Civil Engineering 12..		3	
Railroad Surveying, Civil Engineering 18			
or			
Irrigation Engineering, Civil Engineering 15..			2
Stresses, Civil Engineering 8			4
Bacteriology, Zoology 4			4
Elective**	2	1	4
	<hr/>	<hr/>	<hr/>
	17	17	17

Senior Year

Concrete and Masonry, Civil Engineering 9 ..	3		
Water Supply, Civil Engineering 13			
or			
Topographical Drawing, Civil Engineering 3 ..	3		
Economics, History 21	4		
Bridge Design, Civil Engineering 11a	3		
Engineering Laboratory, Mechanical Engineering 12a, 12b, 12c	2	2	2
Reinforced Concrete, Civil Engineering 10 ..		3	
Railroad Surveying, Civil Engineering 7			
or			
Sewerage, Civil Engineering 14		3	
Structural Steel Design, Civil Engineering 19			2

Railroad Surveying, Civil Engineering 18			
or			
Irrigation Engineering, Civil Engineering 15			2
Contracts and Specifications, Civil Engineering 21			2
Heating and Ventilation, Mechanical Engineering 14			3
Elective**	2	7	4
A choice of one of the following groups is to be made:			
GROUP A			
Bridge Design, Civil Engineering 11b		2	
Higher Structures, Civil Engineering 20			2
GROUP B			
Highway Engineering, Civil Engineering 16 ..		2	
Highway Engineering, Civil Engineering 17 ..			2
Geology, Agronomy 14 (To replace Economics above)	5		
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	17	17	17

ELECTRICAL ENGINEERING

Junior Year

	Fall	Winter	Spring
Electricity and Magnetism, Electrical Engineering 3	5		
Dynamos and Motors, Electrical Engineering 4		5	
Alternating Currents, Electrical Engineering 5			5
Machine Design and Kinematics, Mechanical Engineering 8	3		
Mechanics of Materials, Civil Engineering 6a, 6b		4	3
Steam Engines and Thermodynamics, Mechanical Engineering 9a, 9b	3	3	
Steam Boilers, Mechanical Engineering 10 ..			3
Hydraulics, Civil Engineering 4	4		
Graphic Statics, Civil Engineering 5		3	
Stresses, Civil Engineering 8			4
Elective	2	2	2
	<hr/>	<hr/>	<hr/>
	17	17	17

Senior Year

Advanced Alternating Currents, Electrical Engineering 6	5
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**Electives in this course must be approved by the Professor of Civil Engineering.

Electric Lighting, Electrical Engineering 7 ..	5		
Electric Transmission, Electrical Engineering 8			4
Dynamo Design, Electrical Engineering 9	4		
Power Plant Design, Mechanical Engineering 15			4
Engineering Laboratory, Mechanical Engi- neering 12a, 12b, 12c	2	2	2
Masonry and Concrete, Civil Engineering 9 ..	3		
Reinforced Concrete, Civil Engineering 10 ..		3	
Contracts and Specifications, Civil Engi- neering 21			2
Economics, History 21	4		
Gas and Oil Engines, Mechanical Engineering 13			2
Elective	3	3	3
	<hr/> 17	<hr/> 17	<hr/> 17

THE PHARMACY COURSES

Three plans of study are offered by the Pharmacy Department as indicated below. Upon the completion of the first two years the student may receive the degree of Pharmacy Graduate. After completing the first three years, the degree of Pharmaceutical Chemist may be received. Upon completing the additional prescribed work of the four years course with sufficient elective work to make 204 term credits together with 204 grade points the student will receive the degree of Bachelor of Science in Pharmacy.

The Two Years Plan of Study

This course is designed to acquaint the student with the terms, practice and ethics of modern pharmacy. It complies with both the state and national requirements and fully prepares the applicant for the state examination.

The Three Years Plan of Study

This course has been especially outlined to meet the ever increasing demands for more widely trained men not only in the "Art of Compounding," but in the analysis and synthesis of pharmaceuticals, as well as to give the student proper foundations for research problems.

The Four Years Plan of Study.

The four-year plan of study is a continuation of the three years course and leads to the degree of Bachelor of Science in Pharmacy. It is especially adapted to the student who desires to become a teacher of Pharmacy or to pursue work for the more advanced degrees.

Regulations of the State Board of Pharmacy

Among the regulations of the South Dakota State Board of Pharmacy is the following:

"Hereafter and during the year 1906, all applicants appearing for registration by examination, must present with their application an affidavit showing that they have completed a course of study (or its equivalent) of one year high school work. In 1907, two years; in 1908, three years, and in 1909 the presentation of a high school diploma will be required. These requirements were recommended by the Association in annual meeting at Canton in 1903. It is therefor expedient that all proprietors doing a drug business in this state acquaint their clerks and apprentices with the above rule."

Further recommendations were made by the State Board at a meeting held in Sioux Falls, in January, 1918, which are in substance: "That it shall be deemed expedient for all applicants appearing before the State Board for registration to have had two years of practical experience in a drug store where prescriptions are regularly compounded, together with the Ph. G. degree from a reputable school of pharmacy, or one year of experience and the Ph. C. degree, before said applicant should appear for examination."

In order to harmonize our work with this regulation we require the completion of four years of high school work or its equivalent. While this is a much higher requirement than most schools demand, the results have justified our judgment, for at present there are but three of our graduates who have taken the state examination who are not registered.

This line of work offers many inducements to young men. The requests of the druggists of the state for our graduates

are far in excess of the supply and the pure food and drug laws have opened up a new field for young men who are competent drug and food assayers.

For a detailed description of the subjects offered and information relative to the equipment of the Department of Pharmacy see the description of the department (see index for reference to pages).

Below is given a brief outline of the subjects and the credits required for each of the four years.

Pharmacy Course

Freshman Year

Inorganic Chemistry, Chemistry 1a, 1b, 1c....	3	3	3
Pharmaceutical Latin, Pharmacy 1a, 1b	2	2	
Accounting, Commerce 8	3		
Pharmaceutical Botany, Pharmacy 3	4		
Pharmacy Physiology, Zoology 3a, 3b	4	3	
Theoretical Pharmacy, Pharmacy 5a, 5b		4	3
Practical Pharmacy, Pharmacy 6			2
Pharmacognosy, Pharmacy 4a, 4b		4	4
Chemical Problems, Chemistry 17			4
Hygiene, Zoology 7	$\frac{1}{2}$		
Military Drill, Military 1a, 1b, 1c			
or			
Physical Training 1a, 1b, 1c	1	1	1
	<hr/>	<hr/>	<hr/>
	17 $\frac{1}{2}$	17	17

Sophomore Year

Materia Medica, Pharmacy 2a, 2b, 2c	5	5	5
Theoretical Pharmacy, Pharmacy 7	4		
Organic Chemistry, Chemistry 2	5		
Bacteriology, Zoology 4			4
Dispensing, Pharmacy 9a		4	
Dispensing Laboratory, Pharmacy 9b		4	
Practical Pharmacy, Pharmacy 8	3		
Drug Assaying, Pharmacy 11a, 11b		4	4
Prescription Practice, Pharmacy 10			4
Military Drill, Military 2a, 2b, 2c			
or			
Physical Culture 2a, 2b, 2c	1	1	1
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	18	18	18

Junior Year

Rhetoric, English 1a, 1b, 1c	3	3	3
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Advanced Organic Chemistry, Chemistry 7a, 7b, 7c	4	4	4
Urine Analysis, Pharmacy 12	4		
Toxicology, Pharmacy 13a, 13b		4	4
Elective	6	6	6
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	17	17	17

Senior Year

Survey of American Literature, English 7a, 7b, 7c	3	3	3
Modern History, History 1a, 1b, 1c	3	3	3
Economics, History 21	4		
Sociology, History 31		4	
Elective	7	7	11
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	17	17	17

THE FOUR YEARS COURSE IN COMMERCIAL SCIENCE

This course is designed for those who wish to pursue a full college course and at the same time specialize in business subjects. It prepares for business administration or commercial teaching. A one year vocational course is offered for those who must enter business with less preparation than a full college course. See the Department of Commerce for outline of this course.

Upon the completion of the prescribed work of the four years course together with enough elective work to make 204 credits, together with 204 grade points, the student may receive the degree of Bachelor of Science in Commerce. A certificate will be given to those who complete the one year course.

Commercial Course

Freshman Year

	Fall	Winter	Spring
Accounting, Commerce 1a, 1b, 1c	3	3	3
Rhetoric, English 1a, 1b, 1c	3	3	3
Business Law, Commerce 2	3		
Business Organizations, Commerce 3		3	
Money and Banking, Commerce 4			3
Military Drill (Men), Military 1a, 1b, 1c,			

or

Physical Training (Women) 1a, 1b, 1c	1	1	1
Hygiene, Zoology 7, (Men)			
or			
Home Economics 20, (Women)	$\frac{1}{2}$		
Elective	7	7	7
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	17 $\frac{1}{2}$	17	17

Sophomore Year

Stenography, Commerce 5a, 6a; 5b, 6b; 5c, 6c..	7	7	7
Survey of English Literature, English 6a, 6b, 6c			
or			
Survey of American Literature, English 7a,			
7b, 7c	2	2	2
Public Speaking, English 20a, 20b, 20c	1	1	1
Industrial History, History 3a, 3b		3	3
Military Drill (Men), Military 2a, 2b, 2c,			
or			
Physical Training (Women), 2a, 2b, 2c	1	1	1
Elective	6	6	6
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	17	17	17

Junior Year

American Government, History 11	4		
Political Parties, History 12		4	
Comparative Government, History 13			4
Psychology, Education 1	4		
Electives in Education		4	4
Typewriting, Commerce 6a, 6b, 6c	2	2	2
Elective	7	7	7
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	17	17	17

Senior Year

Economics, History 21	4		
Sociology, History 31		4	
Agricultural Economics, History 22		4	
Rural Sociology, History 32			4
Geology, Agronomy 14	5		
Agricultural Publicity, Agricultural Jour. 1..		2	
Elective	8	7	12
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	17	17	17

THE FOUR YEARS COURSE IN GENERAL SCIENCE

The four years course in general science affords a good general education and allows specialization either in the bio-

logical sciences or in mathematics and physical science. The entrance requirements are the same as those of the other courses leading to degrees. (See entrance requirements.)

The requirements for graduation in this course are 204 credits, including freshman hygiene, the military drill required of all men and the physical training required of all women during the freshman and sophomore years, with 204 grade points.

These credits are distributed as follows:

I. Prescribed work. The following are required of all students taking the course: English, including rhetoric, 15 credits; public speaking, 3 credits; elementary chemistry, 9 credits; economics, 4 credits; history, 9 credits; geology, 5 credits; mathematics, 9 credits; military drill or physical training, 6 credits. Instead of mathematics young women may substitute household physics and organic chemistry.

II. Major electives. Not less than 36 credits exclusive of prescribed work must be chosen in either Group 2 or Group 3 as listed on page 66. These will constitute the principal sequence or major.

III. Minor electives. Not less than 18 credits exclusive of prescribed work must be chosen from one of the groups 2 and 3. This will constitute the minor. The major and minor may not be chosen from the same group.

IV. Forty-two credits exclusive of prescribed work must be chosen in group 4.

V. The remaining 48 credits may be chosen from the five groups.

In addition to the above requirements students following this scheme will be required to take rhetoric and elementary chemistry in the freshman year. Further restrictions may be imposed as the faculty may deem best.

Departments of Instruction

For convenience in securing balance in schedules the subjects of college grade are arranged in five groups:

Group 1. Here belong the vocational and technical sub-

jects offered in the departments of Agricultural Journalism, Agronomy, Animal Husbandry, Art, Civil Engineering, Commerce, Dairy Husbandry, Education, Electrical Engineering, Entomology, Home Economics, Horticulture, Manual Arts, Mechanical Engineering, Military Science, Pharmacy, Poultry Husbandry, and Veterinary Medicine.

Group 2. The biological sciences, including most of the work offered by the departments of Botany, Entomology, and Zoology and Rural Hygiene.

Group 3. The mathematical and physical sciences, including the work of the departments of Chemistry, Mathematics, Physics, and a few other subjects.

Group 4. Languages and the social sciences, including the subjects offered by the departments of Education, English, History and Political Science, and Foreign Languages.

Group 5. The fine arts, including music, charcoal, and painting.

Except where otherwise indicated, it is understood that the electives of any collegiate plan of study may be selected from the work of any collegiate department with the following general restrictions:

If a student begins a subject which is continued during the following term or terms, he should complete the subject.

Not less than one year of a foreign language will receive credit towards a degree unless the student presents a credit for one year of the same language studied elsewhere.

Not more than three credits a year and not more than ten credits in all will be allowed towards a degree in the following: typewriting, music, charcoal and painting, and editorial work on the student publications with the following exceptions: in the four years course in commerce no additional typewriting and not more than four credits in the other lines of work mentioned above will be counted. Music taken in lieu of military drill of the freshman and sophomore years will not be considered in applying this rule.

To make the work of arranging schedules as easy as possible the descriptions of the subjects offered are arranged alphabetically by departments. The departments may be found

on the pages indicated in the following list:

	Page
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AGRICULTURAL JOURNALISM AND ADVERTISING

PROFESSOR STARRING*; PROFESSOR KIESER

The following course is designed to assist prospective farmers, creamery operators and others who intend to receive the greatest cash return from their efforts. It will also be of service to those who become public servants as teachers,

*Resigned April 1, 1920.

county agents or specialists, for they will be expected not only to prepare many articles for publication, but also to assist others with advertising and sales problems.

This is primarily a course in methods. The work in advertising will be preceded by several weeks study of writing farm and other news for publication because advertising, to be effective, must have news value. Each student will be required to prepare advertising matter illustrating the various subjects covered during the course.

1. **Agricultural Publicity Methods.**—2 credits, Winter term. Methods of advertising farm and other industrial products; publicity methods for fairs; editing copy for various publicity media. For senior agricultural students and others interested. Two lecture and recitation periods a week. Mr. Starring.

AGRONOMY

PROFESSOR HUME; ASSOCIATE PROFESSOR HUTTON; ASSOCIATE PROFESSOR CHAMPLIN; ASSISTANT PROFESSOR BUSHEY; MR. LOOMIS; MR. FOWLDS; MR. HOON.

The Agronomy Department is the department of soils and crops. To help students apply the principles of science to crop production on the farms of South Dakota is the essential purpose of the courses offered.

What is soil in South Dakota, or on some farm within the state? The student may learn to outline soil areas, to analyze soils, to observe field experiments, and answer the question for himself.

What crops will grow in South Dakota soil areas, and how may the growing of them be made most profitable to the man who does the work? A study of the results of experiments will answer the questions for the student. It is attempted to give the student in agronomy that accurate knowledge of conditions which is necessary to success in farming.

The courses offered are fundamental, practical, scientific. They are designed for South Dakota farmers. They may be pursued with profit by prospective teachers of agriculture, or experiment station workers.

1a, 1b. **Grain and Root Crops**—3 credits, Winter term; 3 credits, Spring term.—Production and marketing of the common field crops, including barley, corn, flax, oats, potatoes, rye and wheat.

Classification grading and judging of seed. Open to all college students. Required of all agriculture students. One recitation and four hours of laboratory work a week, winter term; two recitations and four hours of laboratory work a week, spring term. Mr. Champlin; Mr. Hoon.

Laboratory fee \$1.00 each term.

2a, 2b. **Crop Breeding**—3 credits, Winter term; 3 credits, Spring Term. Principles of cropping with emphasis upon improvement by selection and breeding; dealing chiefly with principal field crops of South Dakota—corn, wheat, oats, barley, potatoes, alfalfa. In addition to text book references, such magazines as *The Journal of Agronomy*, *Science*, *The Journal of Heredity*. Students may be requested to subscribe for at least one such magazine. Prerequisite, two years of college work. Required of all agronomy students. Two recitations and one two-hour seminar a week. Mr. Hume.

3. **Field Management**—3 credits, Winter term. Arrangement and management of crop rotations with special reference to cost and profit under South Dakota conditions. Prerequisite, *Agronomy 1a, 1b*. One recitation and four hours of laboratory work a week. Mr. Champlin.

4. **Forage Crops**—3 credits, Spring term. Production and marketing of forage; including meadow and pasture grasses, millets, prosos, sorghums, clovers, field peas, field beans. Open to all college students. Required of all agronomy students. One recitation and four hours of laboratory work a week. Mr. Champlin.

5. **Seed Inspection**—3 credits, Fall term. Seed testing, seed impurities and methods of eradication of weeds from farm crops and seeds; characteristics of crop impurities from the standpoint of eradication, as quack grass, Canadian thistle, wild oats. Open to all college students. Required of all agronomy students. Four hours of laboratory work a week. Mr. Fowlds.

6. **Crop Inspection**—3 credits, Fall term. Advanced judging; examination of the several varieties of cereals, root and forage crops, with special reference to resistance to adverse weather conditions and diseases. Examination of crops in the field, experiment plots and prepared specimens. Prerequisite, *Agronomy 1a, 2b*. Mr. Champlin.

7a, 7b. **Field Crops**—3 credits, Winter term; 3 credits, Spring term. Special problems for advanced students, who may become interested in a particular line of investigation, in relation to cereal or forage crops; production or growth of crops; crop improvement; study of previous experiments; original work in greenhouse or field. Student may be required to submit a final report or thesis. Time to be arranged. Mr. Hume; Mr. Champlin.

8. **Experiment Field Observation**—3-6 credits Summer. A course open to students who may be employed by the Agronomy Department at one of the experiment farms. Assisting in laying out plots, taking field notes, cultivating, harvesting, threshing. May make a collection of crops, weeds and grasses. Will keep a note book and receive credit on basis of work, and examination by the Agronomy Department.

9a, 9b, 9c. **Soils**—4 credits each term. The first half of the year is devoted to Soil Physics and Management. The origin and development of the soil under different climatic conditions; classification of soils upon several bases; texture, porosity, specific gravity, plasticity, capillarity, granulation of soils; the soil as a reservoir for water; the movement and control of soil water; irrigation and drainage; the alkali problem; aeration of the soil and its relation to soil texture and plant growth; soil temperature; the physical effect of manures upon the soil; soil erosion by wind and running water—blowing and washing—and their control; the practical application of the foregoing to methods of tillage; crop rotations and the application of green and farm manures in the management of different types of soil. The laboratory work includes a careful study of the physical properties of the soil through observation and practice; soils are also studied under field and green house conditions.

The second half of the year is devoted to Soil Fertility. The relation of the fertility content of the soil to crop yields; effect of supplying various elements of fertility; effects of different rotations and systems of farming in relation to permanent agriculture; farming systems of agriculture adapted to South Dakota conditions. The laboratory work includes the analysis of manures and fertilizers and the determination of their agricultural and commercial values; the analysis of various farm products and the analysis of a soil, preferably from the student's home farm, to determine fertility content. These analyses serve as the basis for devising a system of permanent agriculture for the student's home farm. Prerequisite, Agronomy 1 and 10, Physics 1 and 2, and Chemistry 3 and 4. Required of all agriculture students. Two recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee \$2.00, deposit \$2.00 each term.

10. **Advanced Soil Physics**—4 credits any term. Designed for students who wish to continue the work in Soil Physics begun in Agronomy 9a. A study in the field of the effects of disking, harrowing, rolling, subsoiling, frequency and depth of cultivation with reference to conservation of soil moisture. The student may select a soil in which he is interested and make a complete physical analysis thereof; he may make a careful study of the movement of the water therein and its effect upon the growth of plants; he may choose a special irrigation or drainage problem in which he is interested;

the results of the work are summarized in a final report or thesis. Students who elect this course are advised to signify their intention of so doing at the end of the college year, so that materials may be collected during the summer, and observations recorded. Prerequisite, Agronomy 12. Two recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee, \$2.00, deposit \$2.00.

11. Advanced Soil Fertility—4 credits any term. A continuation of Agronomy 9c. The student may study in detail a special soil in which he is interested or pursue a special problem. The work may include pot culture work in the green house; analysis of soil used in the pots; application of various fertility elements and their relation to the management of the soil; the study of the micro-organisms of the soil in relation to the preparation and availability of plant food, preparation of culture media, cultures from soil suspensions, preparation and study of a few pure cultures, ammonification, nitrification, nitrogen, fixation; legume bacteria and conditions favorable to their growth, inoculation; results of bacterial action determined by quantitative analysis; reading of bulletins, books, etc., and the preparation of a bibliography. The results of the study will be submitted in a final report or thesis. Prerequisite, Agronomy 9c. Two recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee \$2.00, deposit \$2.00.

12. Irrigation and Drainage—3 credits any term. A consideration of the effects of the change in water contents of soils through irrigation and drainage; the effect upon the physical condition of the soil and upon its productivity, special attention given to the problems of irrigation and drainage of unreclaimed lands in South Dakota. Lectures, reading, field observations. Prerequisite, Agronomy 9c. Three recitations a week. Mr. Bushey.

13. Soil Surveying—2 credits Spring term. The object of this course is to familiarize students with the methods of determining soil types and constructing soil maps. The work in the recitation room is supplemented by actual work in the field. Designed for those students who may wish to take up soil survey work. Prerequisite, Agronomy 9b. Two recitations or field trips a week. Mr. Hutton.

14. Earth Science; Geology—5 credits Fall term. A course in general geology with the greater emphasis placed upon the physical division of the subject. The geology of South Dakota in relation to soils, water supplies and mineral wealth is given special attention. Collections of rocks, minerals, typical fossils, physiographic and geologic models, lantern slides, charts and maps are available for laboratory work and reference. Prerequisite, junior standing. Three recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee, \$1.00.

15. **Earth Science; Meteorology**—4 credits Winter term. A practical course dealing with the laws controlling the movements of the atmosphere, the study of climatological and weather factors, with special attention to conditions in the United States; the climate and weather of South Dakota in relation to various economic interests, weather maps, and forecasts. Prerequisite, junior standing. Three recitations and three hours of laboratory work a week. Mr. Hutton.

Laboratory fee, \$1.00.

ANIMAL HUSBANDRY

PROFESSOR WILSON; ASSOCIATE PROFESSOR KUHLMAN

It is generally admitted that livestock farming is the basis for an intensive agriculture and that it, as well as good farming, must be practiced if the fertility of the soil is to be maintained.

Work in this department aims to give the student a practical and scientific knowledge of animal husbandry. The herds and flocks include representatives of fifteen of the leading breeds of farm animals, which are used for class and demonstration purposes.

The following subjects are offered by this department:

1a. **Stock Judging**—4 credits Fall term. Study and practice in judging market types and classes of horses, cattle, sheep and swine. Six hours of laboratory work a week. Mr. Kuhlman.

1b. **Stock Judging**—2 credits Winter term. Judging breeding classes horses, cattle, sheep, and swine, in connection with a breed study of the origin, development, characteristics, and adaptability of the various breeds. Prerequisite, Animal Husbandry 1. Six hours of laboratory work a week. Mr. Kuhlman.

2. **Advanced Stock Judging**—5 credits Fall term. This course includes advanced work in judging market, breed, and show animals of the various breeds of horses, cattle, sheep and swine. Special emphasis is placed upon training students who intend to teach stock judging, act as judges at fairs and shows, and to engage in practical livestock production. Prerequisite, Animal Husbandry 1 and 2. Ten hours of laboratory work a week. Mr. Kuhlman.

3. **Principles of Animal Breeding**—4 credits Winter term. This course deals with the laws of reproduction and development of animals and the study of the different systems employed in producing both market and breeding animals. Pre-requisite, Animal Husbandry

1 and 2. Three recitations a week. Mr. Kuhlman.

4. **Animal Nutrition**—3 credits Fall term. This subject deals with the physical and chemical characteristics of the various feeding stuffs and their relation to practical feeding operations. Pre-requisite, Animal Husbandry 1 and 2, and Chemistry 2. Three recitation a week. Mr. Wilson.

5. **Stock Feeding**—3 credits Winter term. A study of the feeding of the various classes of live stock, compounding of balanced rations, results of experimental and practical feeding investigations. Pre-requisite, Animal Husbandry 4. Three recitations a week. Mr. Wilson.

6. **Live Stock Management**—2 credits Spring term. A study of practical methods and principles involved in the management of all classes of live stock. Pre-requisite, Animal Husbandry 1 and 2. Two recitations a week. Mr. Kuhlman.

7. **Live Stock History and Pedigrees**—4 credits Spring term. A detailed historical study of the common breeds, the methods employed by noted breeders, study of pedigrees of individuals and families and their relation to the development of the breed. Pre-requisite, Animal Husbandry 1 and 2. Three recitations a week. Mr. Kuhlman.

8. **Live Stock Production**—4 credits Spring term. A study of the most successful and economic methods of growing and finishing live stock for market and breeding purposes; arrangement of buildings; founding of herds and flocks; methods of keeping herd records; methods of marketing, etc. Pre-requisite, Animal Husbandry 6 and 7. Two recitations and four hours of laboratory work a week. Mr. Kuhlman.

9. **Live Stock Problems**—1 to 5 credits each term. Advanced and graduate students who have necessary qualifications may be assigned special problems along definite investigational lines. Such work will include assigned readings, conferences, and in a limited number of cases original work in animal husbandry research. Mr. Wilson; Mr. Kuhlman.

ART

PROFESSOR CALDWELL; ASSOCIATE PROFESSOR WILLIS;
MRS. MILLER

The work of this department is designed to cultivate in the student intelligent appreciation and enjoyment of beauty in nature and art.

1. **Charcoal Drawing**—1 or 2 credits any term. A study from

cast, pose and still life, of the construction of heads and figures, the modeling of surfaces and effects of life. Three hours work for each credit.

Laboratory fee, 50 cents.

2a. **Design**—2 credits Fall term. A study of space cutting and proportion. Exercises in line and in dark and light, in pencil and charcoal. Six hours of studio work a week.

2b. **Design**—2 credits Winter term. A study of values, or dark and light arrangements within spaces; borders and surface patterns. Prerequisite, Art 2a. Six hours of studio work a week.

Laboratory fee, 50 cents.

2c. **Design**—2 credits Spring term. A study of color; line, value, intensity and harmony of color applied to simple designs. Prerequisite, Art 2a and 2b. Six hours of studio work a week.

Laboratory fee, 50 cents.

3a. **Design and Composition**—2 credits Fall term. A study of informal design in line, dark and light color; decorations for definite problems; simple illustrations with special emphasis on composition. Prerequisite, Art 2a, 2b, 2c. Four hours of studio work a week.

Laboratory fee, 50 cents.

3b. **House Decoration**—2 credits Winter term. A study in proportion in line, dark and light and color as applied to the needs of a well designed house. The planning of color schemes and arrangements for particular rooms, giving special attention to light exposure. Prerequisite, Art 2a, 2b, 2c and 3a. Four hours of studio work a week.

Laboratory fee, 50 cents.

3c. **Costume Design**—2 credits Spring term. A study of art as applied to costume; designing dress in the careful attention to the proportions and personality of the wearer and the suitableness to the occasion. Prerequisite, Art 2a, 2b, 2c, 3a and 3b. Four hours of studio work a week.

Laboratory fee, 50 cents.

4. **Applied Design**—1 or 2 credits any term. A study of the principles of proportion and decoration as applied to construction and pattern in the various crafts of basketry, pottery, leather tooling, metalry, weaving, stencilling, block printing and lace making. Usually the student may choose the crafts in which he wishes to work. Prerequisite, the student must have had some training in drawing and design. Three to six hours of studio work a week.

5. **Painting**—1 credit any term. A study of color and its properties; exercises in mixing and harmonizing color in painting in oil, watercolor and pastel, from objects and nature. Prerequisites, Preparatory Drawing and Art 1, 2a, 2b, 2c. Three hours of studio work a week.

6a, 6b, 6c. **Art Appreciation**—1 credit each term. A study of arts as expressed in the great masterpieces of architecture, sculpture and painting. Illustrated with pictures and lantern.

Fall term: Important styles of architecture; characteristics, examples.

Winter term: Important schools of painting, great masters and examples of their work.

Spring term: 1, great American artists and their work; 2, some of the minor arts such as pottery, china, tapestry, etc. Students are advised to take the courses in art appreciation in the order named, but may take any term. Each student will be expected to own a small collection of Perry or University prints.

BOTANY AND PLANT DISEASES

PROFESSOR MICHEL

In the work of this department, the structure, physiology, classification and pathology of plants, the fundamental problem of cell structure and function are studied, as well as the direct application of botanical science to agriculture. This work also helps to serve as a foundation for courses in forestry, plant breeding, plant diseases, etc.

The instruction aims primarily to develop the powers of accurate observation and the ability to draw correct conclusions.

Both the elementary and advanced laboratories are well equipped with microscopes and other necessary apparatus for carrying on advanced or original research work. The department has fairly complete, convenient herbaria of the flowering plants and fungous flora of the northern United States.

1a. **Agricultural Botany**—3 credits Fall term. The general principles of biology as illustrated by plants, a study of the cell, followed by a study of the nature of flowering plants and especially of those more closely related to agriculture. Two lectures or recitations and two two-hour laboratory periods a week. Mr. Michel.

Laboratory fee, \$2.00.

1b. **Agricultural Botany**—3 credits Winter term. A continuation of course 1a. The first part of the work will take up the life cycles of the principal types of algae; the latter part of the work will be a consideration of the principal groups of fungi. Two lectures or recitations and two two-hour laboratory periods a week. Mr. Michel.

Laboratory fee, \$2.00.

1c. **Agricultural Botany**—3 credits Spring term. The study of plants from a systematic point of view. The classification of all trees found on the campus, followed by the identification of the principal groups of common weeds. Two lectures or recitations and two two-hour laboratory periods a week. Mr. Michel.

Laboratory fee, \$2.00.

2a, 2b, 2c. **General Botany**—3 credits each term. The work in this course will be somewhat similar to the preceding courses, but modified to apply more directly to the needs of students in General Science and Household Economics. Two lectures or recitations and two two-hour laboratory periods a week. Mr. Michel.

Laboratory fee, \$2.00 each term.

3. **Plant Physiology**—3 credits Spring term. A consideration of the more important life processes of the plant including the properties of living matter; the general physiology of metabolism, growth, reproduction and irritability, the imitation and control of life processes. Prerequisite, Botany 1a, 1b, 1c, or 2a, 2b, 2c. Two recitations and two two-hour laboratory periods a week. Mr. Michel.

Laboratory fee, \$3.00.

4. **Plant Diseases**—3 credits Winter term. The first part of the term is devoted to the cause, nature and classification of the fungi, special emphasis being placed on the organisms of economic importance. The latter part of the course is devoted to the morphology of the diseases and their control, especially of those found in South Dakota. Prerequisite: Botany 1a, 1b, 1c or 2a, 2b, 2c. Two recitations and two two-hour laboratory periods a week. Mr. Michel.

Laboratory fee, \$2.00.

5. **Taxonomy**—4 credits Fall term. The systematic arrangement and classification of the ferns and their allies and especially of the higher flowering plants. The structure and relationship of weeds, grasses, grains and other plants of economic importance will be emphasized. Prerequisite, Botany 1a, 1b, 1c or 2a, 2b, 2c. Two recitations and two three-hour laboratory periods a week. Mr. Michel.

6. **Weeds**—3 credits Fall term. The aim will be to acquaint students with our more common weeds. Numerous field trips will be made in the early fall. Prerequisite: Botany 1a, 1b, 1c or 2a, 2b, 2c. One recitation and three two-hour laboratory periods a week. Mr. Michel.

7. **Plant Histology**—4 credits Winter term. The work will consist in the imbedding, sectioning, and staining of tissues from the various groups of plants. Text-book: Chamberlain's Methods in Plant Histology. Professor Michel.

Laboratory fee, \$2.00.

8. **Heredity**—3 credits Spring term. The principles of variation and heredity, their bearing upon the theory of organic evolution and

their application to man. This course is open to all students who have had one year of biology. Four recitations a week. Mr. Michel.

CHEMISTRY

PROFESSOR DUNBAR; ASSOCIATE PROFESSOR BINNEWIES;
MR. TAYLOR; MR. WELLS.

It is the aim of the department to give the student a general training, so far as our required courses are concerned, in the elementary principles of the science, especially as applicable to the problems he may be expected to meet in relation to the work of an instructor of agricultural subjects, and to the work of his more advanced courses in other lines of study. We also design our courses with a view to technical and analytical preparation for students who purpose to enter commercial and experimental careers along chemical lines. With such aims in view, the department stresses the practical rather than the theoretical application of chemistry, altho such degree of importance is attached to the latter phase of the study as to make the work adaptable to higher investigational courses, should the student incline toward such further study of chemistry. Our advanced and elective courses are designed especially for training for those who purpose to study pharmacy, medicine and food problems, and for those who are looking toward technical positions in manufacturing plants or in experiment station work.

The following is a brief description of courses offered:

1a. **Inorganic Chemistry**—3 credits Fall term. General chemical laws and study of non-metallic elements. Laboratory work stresses qualitative properties and tests. Prerequisite, freshman standing. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Taylor.

Laboratory fee, \$3.00, deposit \$2.00.

1b. **Inorganic Chemistry**—3 credits Winter term. Continuation of 1a. Study of metallic elements with laboratory devoted to study of properties, commercial uses, and qualitative determination of the metals. Prerequisite, Chemistry 1a. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Taylor.

Laboratory fee, \$3.00, deposit, \$2.00.

1c. **Inorganic Qualitative Analysis**—3 credits Spring term.

Continuation of 1a and 1b. Analysis of mixtures of common inorganic compounds, with review of entire subject of Inorganic Chemistry. Prerequisite, Chemistry 1a and 1b. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binneweis; Mr. Taylor.

Laboratory fee, \$4.00, deposit, \$2.00.

2. Elementary Organic Chemistry—5 credits Fall term. General course covering essentials of the subject as applicable to work in Pharmacy, Agriculture, and Domestic Science. Laboratory work largely qualitative. Prerequisite, Chemistry 1a, 1b, 1c. Five recitations and five laboratory hours a week. Mr. Binnewies, Mr. Taylor.

Laboratory fee, \$5.00, deposit, \$2.00.

3. Quantitative Analysis—3 credits Winter term. Mainly devoted to gravimetric manipulation of inorganic types, with simple problems in volumetric analysis at close of term. Prerequisite, Chemistry 1a, 1b, 1c. Twelve laboratory hours a week, one of them devoted to a lecture upon the explanation of principles involved and methods of attack. Mr. Binnewies or Mr. Wells.

Laboratory fee, \$3.50, deposit \$2.00.

4. Volumetric Analysis—3 credits Spring term. Continuation of Chemistry 3 and wholly given over to commercial and volumetric analysis of common inorganic materials. Prerequisite, Chemistry 1a, 1b, 1c, 3. Elective. Nine hours of laboratory work a week. Mr. Binnewies.

Laboratory fee, \$2.00, deposit \$2.00.

5. Household Chemistry—3 credits Winter term. Study of chemical problems related to fuels, cleansing agents, disinfectants, dyes, preservatives, culinary reagents, food adulterants. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three recitations and three laboratory hours a week. Mr. Taylor.

Laboratory fee, \$2.00, deposit, \$2.00.

6. Chemistry of Foods and Nutrition—4 credits Spring term. Study of elementary problems in Physiological Chemistry as related to nutrition, digestive processes and metabolism in general, with special stress upon laboratory work connected with study of nutrients and food values. A course especially aimed to cover problems arising out of work in Domestic Science Courses. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three lectures and three laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$3.50, deposit, \$2.00.

7a. Advanced Organic Chemistry—5 credits Fall term. Intensive study of Aliphatic Types, with laboratory work devoted to practice upon well-known synthetic methods. Course aimed toward industrial application and preparation for medical study. Prerequisite,

Chemistry 1a, 1b, 1c, 2. Three recitations and six laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

7b. **Advanced Organic Chemistry**—5 credits Winter term. Continuation of 7a, but may be taken as a unit course. Aromatic Types. Laboratory work upon synthesis of these types. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three recitations and six laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

7c. **Advanced Organic Chemistry**—4 credits Spring term. Continuation of 7b. Aromatic Types, with special reference to dyes. If time permits, qualitative work in identification of organic groups typical for different common organic compounds, will be offered. Prerequisite, Chemistry 1a, 1b, 1c, 2, 7b. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

8. **Proximate Organic Analysis**—3 credits Winter term. Quantitative analyses of cereals, dairy products, beverages, fungicides, insecticides, food adulterants. Prerequisite, 1a, 1b, 1c, 2, 3. Nine hours of laboratory a week. Mr. Wells.

Laboratory fee, \$3.50, deposit, \$2.00.

9. **Water Analysis, Chemical**—3 credits Spring term. Sanitary and complete analysis of waters, to determine potability or value as boiler waters. Preparation of reports of such analyses. This course should be preceded or accompanied by a course in bacteriological analysis of water. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Nine laboratory hours a week. Mr. Wells.

Laboratory fee, \$4.00, deposit, \$2.00.

10. **Agricultural Chemistry**—4 credits Fall term. A study of the application of chemical laws, methods and principles to problems which are essentially agricultural. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Three recitations and three laboratory hours a week. Mr. Wells.

Laboratory fee, \$2.00, deposit, \$2.00.

11. **Inorganic Technology**—3 credits Fall Term. A study of inorganic technical and commercial processes. Offered in odd-numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Three recitations or lectures a week. Mr. Binnewies.

12. **Physical Chemistry**—5 credits Spring term. Elementary course including molecular weight determinations, conductivity and electrolytic dissociation, equilibrium, polarimetry, spectroscopy, refractometry. Offered in odd-numbered years only. Prerequisite, 1a, 1b, 1c, 3, and General Physics. Three lectures and six laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

13. **Organic Technology**—3 credits Winter term. A study of

commercial and technical methods in the preparation of organic materials. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three lectures or recitations a week. Offered in even-numbered years only. Mr. Binnewies.

14. **Physiological Chemistry**—5 credits Fall term. Work in metabolism, ferment action, digestive processes, nutrition, urinalysis, and like physiological phases of chemical application. An advanced course for students preparing for medical work and for advanced students in Domestic Science. Offered in even-numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Mr. Binnewies.

Laboratory fee, \$5.00, deposit, \$2.00.

15. **Technical Analysis**—4 credits Spring term. Technical methods of analysis of paints, varnishes, lubricants, oils, fuels, iron and steel alloys. Offered in even-numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3, 4. Twelve laboratory hours a week. Mr. Binnewies.

Laboratory fee, \$5.00, deposit, \$2.00.

16. **Advanced Qualitative Analysis**—4 credits Winter term. Involving more difficult phases of analysis and stressing modern theories of mass action, ionic systems, etc. Offered in odd-numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 12 and General Physics. Two recitations and six laboratory hours a week. Mr. Binnewies.

Laboratory fee, \$3.00, deposit, \$2.00.

17. **Chemical Problems**—2 credits Spring term. Study of the more common calculations encountered in Pharmacy and in Quantitative Chemistry. Prerequisite, Chemistry 1a, 1b. Two recitations a week. Mr. Wells.

18. **Thesis**—5 credits Spring term. Required from all students majoring in Chemistry. Topic to be assigned. Fifteen laboratory hours a week. Prerequisites depend upon nature of work assigned. Mr. Dunbar.

Laboratory fee, dependent upon nature of work assigned.

CIVIL ENGINEERING

PROFESSOR SNADER

The course in Civil Engineering is planned to give a broad education in both general and scientific subjects, and a thorough training in the principles underlying all engineering, with as much special training as time will permit in those subjects belonging particularly to the field of the civil engineer.

Nearly all of the time of the junior and senior years is

devoted to purely engineering subjects, the greater portion of the student's work being under the direct supervision of the Civil Engineering Department. In the senior year a choice is made of one of the two groups of subjects, Structural Engineering and Highway Engineering. Increased interest in road-building throughout this state, as well as in other states, makes it desirable that men wanting to specialize in Highway Engineering be given the opportunity to do so.

The department is provided with suitable field and drafting room equipment, including transits, levels, plane-table, solar attachment, compasses, sextant, current meter, planimeter, tapes, rods and other hand instruments.

A detailed description of each subject offered by the department follows:

1. **Plane Surveying**—3 credits Spring term. Lectures, field and office work in the theory and practice of plane surveying. Field work with the tape, level and transit. Much emphasis is placed on a high standard in form and style of the student's field notes and office calculations. Prerequisite, Plane Trigonometry and Engineering Drawing. Nine hours of field work a week. Mr. Snader and Assistant.

Laboratory fee, \$2.00.

2. **Topographical Surveying**—3 credits Fall term. Continuation of Plane Surveying with considerable practice in leveling, use of the transit, and in baseline measurements and triangulation. A study of the theory and use of the stadia and plane table. Determination of contours for a topographic map. Prerequisite, Civil Engineering 1. Nine hours of field and office work a week. Mr. Snader.

Laboratory fee, \$2.00.

3. **Topographical Drawing (1921)**—3 credits Fall term. Engineering lettering and pen topography; a study of scales and contours; the plotting of profiles from contour plans; and the construction of a complete topographic map. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1921. Prerequisite, Civil Engineering 1 and 2. Nine hours of drawing a week. Mr. Snader.

4. **Hydraulics**—Four credits Fall term. Hydrostatics and theoretical hydraulics. The flow of water through orifices, tubes, pipes, open channels, and over weirs. Losses of head due to frictional and other resistances. Prerequisite, General Physics, Analytic Geometry and Calculus. Four recitations a week. Mr. Snader.

5. **Graphic Statics**—3 credits Winter term. The graphical method of determination of the center of gravity and moment of

inertia of cross sections, and reactions, moments and shears in beams, trusses and arches. Prerequisite, Analytic Mechanics, General Physics and Engineering Drawing. Six hours a week. Mr. Snader.

6a, 6b. **Mechanics of Materials**—4 credits Winter term; 3 credits Spring term. A study of the strength and elastic properties of timber, brick, stone, cast iron, wrought iron and steel. The theory of beams, columns and shafts; a study of combined stresses, impact and fatigue, true internal stresses, the application of the principle of least work and the solution of problems. Prerequisite, Calculus and Analytic Mechanics. Four recitations a week second term; three recitations a week third term. Mr. Snader.

7. **Railroad Surveying (1922)**—3 credits Winter term. Reconnaissance, preliminary location methods, theory of curves and turn-outs. The computation of earth-work and the estimate of costs. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1922. Prerequisite, Civil Engineering 1, 2 and 3, and Calculus. Three recitations a week. Mr. Snader.

Laboratory fee, \$1.00.

8. **Stresses**—4 credits Spring term. The analytic method of determination of stresses in roof and bridge trusses under dead, live and wind loads. Locomotive wheel loads on plate girders and bridge trusses. Prerequisite, Civil Engineering 5, 6a and 6b. Four recitations a week. Mr. Snader.

9. **Masonry and Concrete**—3 credits Fall term. A study of the manufacture and use of cement, the proportioning and properties of concrete; the occurrence of the common building stone, and the proper use of them in walls, foundations and other engineering structures. Prerequisite, Civil Engineering 6a and 6b. Three recitations a week. Mr. Snader.

10. **Reinforced Concrete**—3 credits Winter term. The theory and design of reinforced concrete and applications to various types of engineering structures. Prerequisite, Civil Engineering 6a, 6b and 9. Three recitations a week. Mr. Snader.

11a, 11b. **Bridge Design**—3 credits Fall term; 2 credits Winter term. Theory, designing and detailing; the making of general and detailed drawings for a plate girder, the designing and drawing of a highway bridge, and the design and making of drawings for a riveted or a pin-connected railroad bridge. Prerequisite, Civil Engineering 5, 6a, 6b and 8. Six hours a week first term; four hours a week second term. Mr. Snader.

12. **Roads and Pavements**—3 credits Winter term. The location, construction, and maintenance of highways and streets. Types and methods of construction and maintenance. Road building ma-

chinery. Prerequisite, Civil Engineering 1 and 2, and Engineering Drawing. Three recitations a week. Mr. Snader.

13. **Water Supply (1920)**—3 credits Fall term. The study of the principles underlying the selection of a pure water supply; and a study of the proper design, construction and operation of municipal water supply systems. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1920. Prerequisite, Civil Engineering 1 and 4, or 4 simultaneously, and Chemistry 3. Three recitations a week. Mr. Snader.

14. **Sewerage (1921)**—3 credits Winter term. The study of the principles involved in the selection, design, construction and operation of an efficient municipal sewage disposal system. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1921. Prerequisite, Civil Engineering 4 and 13. Three recitations a week. Mr. Snader.

15. **Irrigation Engineering (1921)**—2 credits Spring term. The principles of irrigation engineering; design, construction, maintenance and operation of works for holding and controlling the waters needed for agriculture. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1921. Prerequisite, Civil Engineering 4. Two recitations a week. Mr. Snader.

16. **Highway Engineering**—2 credits Winter term. Costs and comparisons of types. Economics of location. Applications of principles of design to the preparation of plans. Examination of materials. Prerequisite, Civil Engineering 12. Two recitations a week. Mr. Snader.

17. **Highway Engineering**—2 credits Spring term. Inspection and construction supervision. Study of standard and special specifications for highway construction. Methods of financing road improvements. Organization and administration. Prerequisite, Civil Engineering 16. Two recitations a week. Mr. Snader.

18. **Railroad Surveying (1922)**—2 credits Spring term. A continuation of Civil Engineering 7. Actual field practice in the location of a short line of railroad, from the reconnaissance to the final location, and the making of the necessary maps and profiles. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1922. Prerequisite, Civil Engineering 1, 2, 3 and 7. Six hours of field work a week. Mr. Snader.

Laboratory fee, \$2.00.

19. **Structural Steel Design**—2 credits Spring term. Lectures on shop practice in making drawings. Theory and actual practice in designing connections, the design of beams, bearings, columns, girders,

grillage foundations and a roof truss. Prerequisite, Civil Engineering 5, 6a, 6b and 8. One recitation and three hours drawing a week. Mr. Snader.

20. **Higher Structures**—2 credits Spring term. A study of continuous, draw, cantilever and suspension bridges, and metallic arches. The theory and design of masonry dams and arches. Prerequisite, Civil Engineering 5, 6a, 6b, 8, and 11a, 11b. Two recitations a week. Mr. Snader.

21. **Contracts and Specifications**—2 credits Spring term. Synopsis of the law of contracts as applied to engineering construction; a study of typical contracts and specifications, and survey descriptions. Prerequisite, senior standing. Two recitations a week. Mr. Snader.

COMMERCE

PROFESSOR PRATHER; MISS SLOCUM

The Department of Commerce offers a complete college course in Commerce leading to the degree of Bachelor of Science in Commerce, and a one year vocational course for those who must enter business with less preparation than a full college course. Freshman standing is required for entrance to both courses.

Never in the history of our country were young men and young women in greater demand in commercial lines than at the present time, and we believe that in order to achieve the largest measure of success, and to perform his duties to himself and society, the business man should have a broad, general education as well as a course adapted to specialized business. Such preparation has been provided for in the four years course. See plans of study of college courses.

This course is also intended to train those expecting to become commercial teachers, since the requirements of many states, including our own, demand that teachers of special subjects be college graduates.

A one year vocational course in the department is offered for the benefit of those who are unable to complete the four years course. Upon the completion of this course, which is outlined below, the student will be given a certificate.

The entrance requirements to the one year course are

1a, 1b, 1c. **Accounting**—3 credits each term. It is the purpose of this work to acquaint the student with the different industrial organizations, and the latest methods of keeping the accounts and records of these institutions. Prerequisite, one semester of book-keeping. Six hours a week of recitation and laboratory. Mr. Prather.

2. **Business Law**—3 credits Fall term. The purpose of this subject is to give the student a knowledge of the fundamental principles of law as applied to business relations. The aim is to show the way that leads from litigation rather than to make lawyers of the students. While this course is required only of students in the commercial course, it is a profitable study for any one. Prerequisite, freshman standing. Three recitations a week. Mr. Prather.

3. **Business Organization and Control**—3 credits Winter term. A continuation of Business Law. Laws governing Proprietorship, Partnership, Joint Stock Companies, Insurance Companies and Common Carriers are discussed in non-technical language. Prerequisite, Business Law (Commerce 4). Three recitations a week. Mr. Prather.

4. **Money and Banking**—3 credits Spring term. A theoretical and practical study of the history, nature and uses of money; classification of banks; loans, discounts and collections; Clearing Houses, Federal Reserve System, etc. This theoretical study will be supplemented with Bank Bookkeeping. Prerequisite, Business Law and Business Organization (Commerce 2 and 3.) Mr. Prather.

5a, 5b, 5c. **Shorthand**—5 credits each term. This course continues through the year and cannot be entered after the second week of the Fall term unless the student has carried the subject at some other time and is able to take up the work with the class. Gregg Shorthand is taught. Prerequisite, freshman standing. Five recitations a week. Miss Slocum.

6a, 6b, 6c. **Typewriting**—1 2-3 to 3 credits each term. Typewriting is required of all students taking Shorthand. Graded exercises to learn "touch method" are first given. Care of machine; correspondence and legal forms; billing and tabulating; and manifolding and mimeographing are also included. Five or ten hours a week. Ten hours a week are required in the Vocational course, for which three credits are given. Miss Slocum.

Laboratory fee, \$2.00 per term.

7. **Secretarial Practice**—No credit Spring term. As far as possible practice with college offices or business firms in town. Also a great deal of class room practice in taking dictation and transcribing on the typewriter. Two dictaphones are in use in this course. Mr. Prather and Miss Slocum.

8. **Pharmaceutical Accounting**—3 credits Fall term. This course is given only to students taking the courses in Pharmacy. Six hours of laboratory work a week. Mr. Prather.

One Year Vocational Course
September 20, 1920 to June 16, 1921

	Fall	Winter	Spring
Shorthand, Commerce 5a, 5b, 5c	5	5	5
Typewriting, Commerce 6a, 6b, 6c	3	3	3
Rhetoric, English 1a, 1b, 1c	3	3	3
Business Law, Commerce 2	3		
Business Organization and Control, Commerce 3		3	
Money and Banking, Commerce 4			3
Accounting, Commerce 1a, 1b, 1c	3	3	3
Secretarial Practice, Commerce 7			0
	17	17	17

DAIRY HUSBANDRY

PROFESSOR LARSEN; ASSISTANT PROFESSOR WRIGHT; MR. JONES; MR. JOHNSON; MR. CULHANE; MR. MATHIESEN

This department offers two separate courses: (1) The four-years agriculture course, the last two years of which are devoted chiefly to special dairy studies. (2) The three-months dairy course.

The first course has been outlined with a special view of fitting young men to become teachers and investigators of dairying in public schools, agricultural colleges and experiment stations, inspectors of creameries and dairy products in municipal, state and government service and superintendents of creameries and dairy farms.

The second course is given with a view of training men to become successful operators of creameries, cheese factories, central plants and dairy farms. (See below.)

The demand for good men properly trained along dairy lines is great. Compensation for dairy and creamery work is good. Worthy students can depend upon the co-operation of this department in securing suitable work.

The Dairy Husbandry Department operates on a commercial basis a well equipped creamery in which butter, cheese and ice cream are manufactured throughout the year. The department occupies a two-story brick building. On the first

floor are the engine room, creamery rooms with full equipment for butter, cheese and ice cream making, refrigerating rooms, locker and reading room, and a large laboratory used for instructional purposes. On the second floor are located class rooms, offices, dairy bacteriology laboratory and chemistry research laboratory.

The dairy herd, which consists of representatives of the principal dairy breeds, affords an excellent opportunity to become acquainted with dairy types. The dairy barn is large and well equipped. Milking machines are in daily use, thus affording students opportunity to acquire practical knowledge regarding machine milking.

Experiments relating to feeding, breeding and care of dairy stock and the manufacture of dairy products are in progress at all times. Students may have the advantage of keeping in touch with these experiments, note manner of outlining and executing investigational work, and profit from results. Advanced worthy students may arrange to assist in some of this work.

The following work is offered:

1a, 1b. **Farm Dairying**—3 credits Fall term; 3 credits Spring term. Chief purposes of dairy farming; relation of form of dairy cow to production, secretion and composition of milk; breeds of dairy cattle; care and feed of the dairy herd; methods of handling and disposing of dairy products on the farm; testing milk and its products for fat, acid and common adulterations. Text: Larsen, *Dairy Farming*. Two recitations and three hours of laboratory work a week. Mr. Jones.

2. **Inspection and Testing of Dairy Products**—5 credits Winter term. Thorough study of the Babcock test for fat; lactometer and its application; tests for acidity of dairy products; tests for moisture in butter; influence and detection of different preservatives and adulterations; pure dairy food standards. Text: Farrington & Woll, *Testing Milk and Its Products*. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Jones, Mr. Mathiesen. Laboratory fee, \$2.00.

3. **Dairy Bacteriology**—5 credits Fall term. Bacteriological principles as related to dairying; contamination of milk; fermentations of milk and their control; relation of disease bacteria to milk; preservation of milk for commercial purposes; bacteria as related to the manufacture of butter, cheese and ice cream. Text: Conn, *Dairy*

Bacteriology. Prerequisite, Dairy 1 and Zoology 10. Three recitations and six hours of laboratory work a week. Mr. Wright.

4. **Factory Operation (Creamery)**—5 credits Fall term. Receiving, sampling and separation of milk and cream; preparation and use of starters; pasteurization and ripening of cream; principles of churning; washing, salting, working, packing and marketing of butter; organization, location, construction, drainage, cooling and ventilation of factories and creameries; economic disposal of factory by-products; methods of factory refrigeration. Prerequisite, Dairy 1, 2 and 3. Three recitations and six hours of laboratory work a week. Mr. Wright, Mr. Culhane.

Laboratory fee, \$2.00.

5. **Factory Operation (Cheese-making)**—5 credits Spring term. Study of milk as applied to cheese-making; manufacture of hard and soft cheeses; principles involved in the setting, cutting, cooking, dipping, milling, salting, pressing, curing and marketing of cheese. Text: Thom & Fisk, Book of Cheese. Prerequisite, Dairy 1, 2 and 3. Three recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

6. **Dairy Management**—5 credits Spring term. Methods of improving and upbuilding a dairy herd; advanced judging of dairy cattle; methods of keeping records of feed consumed and milk and butter fat produced; history and adaptability of the various dairy breeds; relation of the dairy type to milk producing capacity; extent to which dairy farming is practiced and under what conditions it is best applicable; dairy farming as an adjunct to general farming; arrangement and construction of dairy farm buildings; details of herd management. Text: Larsen & Putney, Dairy Cattle Feeding & Management. Prerequisite, Dairy 1 and Botany II. Three recitations and six hours of laboratory work a week. Mr. Jones.

7. **Dairy Technology**—5 credits Spring term. A study of market milk and ice cream making. Also the utilization of milk and its products outside of the scope ordinarily embraced under dairying; value of milk as a food; preparation of certified, modified, standardized, fermented, and condensed milk; the manufacture of casein, milk ivory, milk sugar, renovated butter and oleomargarine. Prerequisite, Dairy 1, 2 and 3. Three recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

8. **Dairy Research**—2 credits Winter term. Views held by different authorities on important dairy subjects; a digest of recent dairy work of the experiment stations; comparative dairying as practiced in the leading countries; reference and reports. Prerequisite, Dairy 1, 2, 3, 4, and 6. Mr. Wright; Mr. Jones.

9. **Dairy Practice**—1 to 5 credits any term. Work in a commer-

cial creamery; the college creamery is available for this purpose; for students specializing in dairying who have had little or no practical creamery experience; this work should be done during vacation.

10. Domestic Dairying—2 credits Fall term. Such phases of dairying as will be of greatest interest and value to ladies and home life; properties and uses of milk and its component parts in the home and for commercial purposes; relation of germs to quality of milk from consumers standpoint; effects and detection of adulteration of dairy products; care and handling of dairy products in the home; making and judging of cheese and butter. Prerequisite, Chemistry 1, 2 and 3. One recitation and three hours of laboratory work a week. Mr. Jones.

11. Advanced Inspection of Dairy Products—4 credits Winter term. Properties of the component parts of milk and its products; condensed and powdered milks; butter from neutralized cream; leading types of cheese; brief survey of the milk of other animals than the cow; abnormal milk; substitutes for butter; complete chemical analysis of milk and butter; determination of the important constants of butter fat. Text: Richmond, Dairy Chemistry. Prerequisite, Dairy 2 and Chemistry 5. One recitation and nine hours of laboratory work a week. Mr. Johnson.

12. Advanced Dairy Bacteriology—4 credits Spring term. A continuation of Dairy Bacteriology (Dairy 3); isolation of the bacteria of special importance in the dairy industry; characteristics of the bacteria that cause undesirable fermentations, bitter milk, slimy milk, gargetty milk, gassy cheese, rancid butter, etc.; pathogenic organisms of importance in connection with market milk supply; desirable bacteria in milk; pure cultures widely used in connection with fermented milk drinks. Prerequisite, Dairy 1, 2 and 3. Two recitations and six hours of laboratory work a week. Mr. Wright.

13. Advanced Judging of Dairy Cattle and Dairy Products—2 credits Fall term. A course designed to acquaint the student with features of show ring judging. A close study of breed types and characteristics; practice in giving oral and written reasons; competitive judging. The judging of cheese, butter and milk will be on the basis of the score cards used by the U. S. Department of Agriculture with special attention paid to the rules of the contest held at the National Dairy Show. Students expecting to take this course should notify the department before September 1st, as a part of the work is given in connection with the State Fair preparing a team to represent the college in the students National Judging Contests. Prerequisite, Dairy 2 or 6. Open only to Juniors and Seniors. Six hours of laboratory work a week. Mr. Wright; Mr. Jones.

14. Dairy Seminar—2 credits Spring term. General discussion of important dairy subjects; outside references and frequent reports

and papers required; modern trend of the dairy industry. Prerequisite, Dairy 1, 2, 3, 4 and 6. Two recitations a week. Staff.

The Three Months' Creamery Course January 3 to March 23, 1921

This course is especially designed for young men wishing to fit themselves for various positions connected with the creamery industry such as helpers, buttermakers and managers.

Prospective students are urged to get at least six months of practical experience in some creamery before attending College, as by this means it is found that much greater benefit is derived from the work at school.

The more general application of scientific principles to the manufacturing industries as well as the increasing competition on all sides demands a more thorough training in scientific and business methods than heretofore. This is no less true with regard to the creamery industry; and while the practical work of the school is by no means neglected special pains are taken to teach the underlying principles and the "reason why" for many of our daily operations. The increasing interest in dairying in South Dakota is creating a demand for men well trained along dairy lines, and applications for such are constantly being received at excellent salaries. Worthy students may count on the co-operation of the dairy department in helping them to secure positions at the close of their college work.

The following work is offered:

Factory buttermaking and creamery management.

Testing milk and its products.

Dairy bacteriology.

Dairy arithmetic and accounting.

Breeding, feeding and management of dairy cattle.

Agronomy.

Veterinary medicine.

Creamery mechanics.

The tuition is four dollars for the three months' term with a small additional fee for laboratory expenses.

A certificate of standing will be issued to all students passing satisfactory examinations on the above subjects.

Address the Dairy Husbandry Department for special bulletin describing this course and other work of the Dairy department.

ELECTRICAL ENGINEERING

PROFESSOR BRACKETT; ASSISTANT PROFESSOR PHILLIPS

The purpose of the work offered in Electrical Engineering is to impart to the student a practical knowledge of the principles of applied electricity. A well equipped laboratory is provided for the use of the student to supplement the lecture and recitation work of the class room. The laboratory equipment consists of generators and motors of both direct and alternating current types, transformers and measuring instruments of different types and classes for recording and measuring currents, pressures and speeds. A sixty-cell storage battery is used in connection with the work in photometry. Various types of lamps, arc and incandescent, lamp banks, rheostats, and other apparatus are also available.

The student will be taught how to set up and adjust for the best conditions of operation all the usual types of dynamos, motors, transformers and standard auxiliary apparatus. Much additional laboratory work will be given to develop a clear understanding of the fundamental principles involved in the design of modern electrical machinery and in the most advanced engineering practice. The knowledge to be derived from this work is very important in the practical operation of electrical machinery and systems, but it cannot be obtained directly under the conditions of commercial service, where most of the apparatus must be used in one way only at all times.

Special elective courses in a wide variety of subjects will be given whenever there is sufficient demand. Additional and advanced work may be taken in practically every line listed below. Classes may also be organized in study of current electrical journals; telephone engineering; wireless telegraph and telephone; electric traction; electric power stations; long distance transmission and in other similar lines. The

prerequisite, the credit, the time and other conditions must be passed upon by the proper authorities before any of these classes will be formed.

1a. **Applied Electricity**—1 credit Fall term. Gasoline engine, its ignition system and troubles; coils; magnetos; distributors; breakers. One three-hour laboratory period a week. Mr. Phillips.

Laboratory fee \$1.00.

1b. **Applied Electricity**—1 credit Winter term. Course 1 continued: overhauling and repairing coils and magnetos; study of generators and motors used in starting systems. One three-hour laboratory period a week. Mr. Phillips.

Laboratory fee \$1.00.

3. **Electricity and Magnetism**—6 credits Fall term. Electric and magnetic circuits; measurements of electric and magnetic properties; principles of dynamos and motors. Prerequisite, Mathematics 21, Physics 1, Electrical Engineering 1 and 2. Four recitations and one two-hour laboratory period a week. Mr. Brackett.

Laboratory fee \$2.00.

4. **Direct Current Dynamos and Motors**—6 credits Winter term. Construction and operation of direct current machines, their characteristics, efficiencies and other properties. Prerequisite, Electrical Engineering 3. Four recitations and one two-hour laboratory period a week. Mr. Brackett.

Laboratory fee \$2.00.

5. **Alternating Current Electricity**—6 credits Spring term. Laws of alternating currents; inductance; capacity; principles of alternating current generators, motors and transformers. Prerequisite, Electrical Engineering 4. Four recitations and one two-hour laboratory period a week. Mr. Brackett.

Laboratory fee \$2.00.

6. **Advanced Alternating Currents**—5 Credits Fall term. Advanced study of the subjects in course 5; more complete tests of alternating current machines; study of additional types of machines. Prerequisite, Electrical Engineering 5. Three recitations and one two hour laboratory period a week. Mr. Brackett.

Laboratory fee \$2.00.

7. **Electric Lighting**—5 credits Winter term. Cost of producing electric power; distribution; wiring; types of lamps; location of lamps for interior and street lighting. Prerequisite, Electrical Engineering 1 to 6. Three recitations and one two-hour laboratory period a week. Mr. Brackett.

Laboratory fee \$2.00.

8. **Electric Transmission and Power**—4 credits Spring term. Uses of electric motors; advantages of different types; individual and

group drives; transmission; converters; substations; regulating apparatus. Prerequisite, Electric Engineering 7. Two recitations and one two-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

9. **Dynamo Design**—4 credits Winter term. Computations, description and drawings for direct current dynamo or motor. Prerequisite, Electrical Engineering 5. Four laboratory hours a week. Mr. Brackett

ENGLISH

PROFESSOR BALDWIN; ASSOCIATE PROFESSOR POWERS; ASSOCIATE PROFESSOR MEINZER; ASSISTANT PROFESSOR YOUNG*; ASSISTANT PROFESSOR MULLENBACH

The required courses in English aim to give the student that command of the English language and literature which every educated person should have. But they are not intended to fit students to be teachers of high school English. Those who intend to teach some English along with their technical work should take 7a, 7b, 7c in the sophomore year and then elect in the junior and senior years at least 6a, 6b, 6c and either 8a, 8b, 8c or 9a, 9b, 9c. Those who wish to do further work in English should elect as many other courses in English as are available. Any student who wishes to do more than the required work in English should consult the head of the department for advice.

1a, 1b, 1c. **Rhetoric**—3 credits each term. The main purpose of this course is to familiarize the student with the principles of rhetoric and to enable him to use them effectively in composition. To this end written work is demanded constantly, and is carefully criticized both in the class room and in conferences between the instructor and the individual student. The work is supplemented with reading, in the choice of which the student is allowed considerable latitude. Prerequisite, the English of the preparatory department; required of all freshmen. Three recitations a week.

2. **Advanced Composition**—3 credits spring term. This course is given as an elective for those who wish to do further work in composition. Besides being given as a regular course in (a) advanced composition, it may take a variety of other forms, depending on the needs and wishes of the majority of the class. It may be given as a course in the writing of (b) farm bulletins, or in the writing of (c) the short story, or as a course in (d) technical composition for engineers. Three recitations a week. Mr. Baldwin.

*Miss Young on leave of absence from February 1, 1920; place supplied by Miss Mullenbach.

6a, 6b, 6c. **Survey of American Literature**—2 credits each term. Every student must take this course or English 7a, 7b, 7c in his sophomore year. This course is accompanied by 20a, 20b, 20c. The course is open also as an elective for those who have taken English 7a, 7b, 7c. The method pursued will be similar to that in English 7a, 7b, 7c. Prerequisite, English 1a, 1b, 1c. Two recitations a week. Mr. Powers.

7a, 7b, 7c. **Survey of English Literature**—2 credits each term. Every student must take this course or English 6a, 6b, 6c in his sophomore year. This course is accompanied by 20a, 20b, 20c. The course is open also as an elective for those who have taken English 6a, 6b, 6c. This is a general course in literature, having as its main aim to show the student the connection between literature and life. A guiding manual will be used but the chief emphasis will be placed upon typical selections from representative authors and upon the student's own powers of observation. Special reports, oral and written, upon assigned topics will be required of each student, such reports to be delivered before the class as critical audience. There will also be frequent written recitations. Any student who expects to elect further work in English should take this course in the sophomore year. Prerequisite, English 1a, 1b, 1c. Two recitations a week. Mr. Baldwin.

8a, 8b, 8c. **English Drama Through Shakespeare**—3 credits each term. The first term of this course will deal with pre-Shakespearean drama; the second and third terms will center upon Shakespeare, all studied from the point of view of development or evolution. No student should begin this course unless he intends to take the full three terms. Students may enter the course at the beginning of the second term but not at the beginning of the third. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); alternates with 9a, 9b, 9c; given 1921-22; elective. Three recitations a week. Mr. Baldwin.

9a, 9b, 9c. **Nineteenth Century Poetry**—3 credits each term. The first term will deal with the minor poets, the second with Tennyson, and the third with Browning. Students are advised to take the series but may take any single term of the work. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); alternates with 8a, 8b, 8c; given 1920-21; elective. Three recitations a week. Mr. Baldwin.

10a, 10b, 10c. **Modern Literature**—3 credits each term. The first term will be devoted to the study of the drama, the second to the novel, the third chiefly to the short story and poetry. Any term may be taken separately. See general statement following course 11. Prerequisite, English 6a, 6b, 6c or 7a, 7b, 7c; elective. Three recitations a week. Mr. Baldwin.

11. **The English Novel**—3 credits Fall term. This course deals with the evolution of the English novel to about the end of the nineteenth century. The class will read a novel each week. Students are warned that this course will be principally reading and that the expense for text-books is likely to be higher than for other courses. Two hours recitation, remainder reading; prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); elective. Three recitations a week. Mr. Baldwin.

12. **The English Essay**—3 credits Winter term. This course will be given either as a study of the general development of the English essay as seen in its chief exponents or as a specialized study of the scientific essay, according to the needs and wishes of the class. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); elective. Three recitations a week. Mr. Baldwin.

Courses 10a, 10b, 10c and 11, 12, 2 form a double interlocking series. Ordinarily, only one of the courses will be given each term, the particular one to be decided by the majority of the class. If, however, there is sufficient demand and the schedule will permit, both courses may be given.

13. **Spencer, Milton, and Pope.** This course will be organized only upon demand. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); elective. Mr. Baldwin.

15a, 15b, 15c. **Biblical Literature**—2 credits each term. This course aims simply at giving that knowledge of the Bible which every educated person should possess. Therefore the Bible itself is the text-book, supplemented by a book of outlines, and by a few monographs on such subjects as how the Bible has come down to us. Prerequisite, freshman standing. Two recitations a week. Mr. Baldwin.

20a, 20b, 20c. **Required Public Speaking**—1 credit each term. This course accompanies 6a, 6b, 6c and 7a, 7b, 7c. Declamations, orations, and prepared speeches. Required of all sophomores. One recitation a week. Mr. Meinzer.

21a. **Argumentation and Debate**—3 credits Fall term. One-half of the time will be spent in debating. The remainder will be devoted to declamations, oratory, and extempore speaking. A text book on argumentation will be used. Prerequisite, freshman standing; elective. Three recitations a week. Mr. Meinzer.

21b. **Argumentation and Debate**—3 credits Winter term. Similar to 21a. May be taken as a continuation of 21a or without having taken it. Elective. Three recitations a week. Mr. Meinzer.

21c. **Argumentation and Debate**—3 credits Spring term. Similar to 21a and 21b. The same rules apply as in 21b. Elective. Three recitations a week. Mr. Meinzer.

22a. **Extension Lecturing**—3 credits Fall term. Students will prepare lectures on educational or agricultural subjects. This is a practical course, and will include a study of rural psychology. Prerequisite, 21a, 21b, 21c; elective. Three recitations a week. Mr. Meinzer.

22b. **Extension Lecturing**—3 credits Winter term. A continuation of 22a. Elective. Three recitations a week. Mr. Meinzer.

23. **Dramatics**—3 credits Spring term. Reading of selections from plays; a study of selections from plays; a study of plays suitable for amateur production; training in staging plays. Intended for high school teachers and community leaders. Prerequisite, freshman standing; elective. Three recitations a week. Mr. Meinzer.

ENTOMOLOGY

PROFESSOR SEVERIN; MR. GILBERTSON

The work of this department is conducted by means of lectures, recitations, laboratory and field work. The student is thus afforded not only an opportunity to gain familiarity with the principles and theories discussed in the class room, but is also encouraged to put these theories to the test and verify the principles in the field. In the way of illustrative material, in addition to the general entomological museum and the entomological collections, the department is provided with a large number of lantern slides, microscopic slides, life histories of injurious insects, alcoholic and formalin preparations, as well as a complete line of insecticides and fungicides, spray machinery and accessories, and other apparatus used in combating insects. The department is well provided with all the apparatus necessary for carrying on entomological work.

1a, 1b. **Agricultural Entomology**—3 credits Winter term; 3 credits Spring term. A general course, dealing with the anatomy, physiology, embryology, behaviour, classification, life history and economic importance of injurious insects. This course is designed as an introduction to the practical work in economic entomology offered in courses 3 and 4 and to the systematic work offered in 5 and 6. One recitation and four hours of laboratory work a week. Mr. Severin; Mr. Gilbertson.

Laboratory fee, \$1.50 per term.

2a, 2b. **Economic Entomology**—3 credits Fall term; 3 credits Winter term. A detailed study in the field and lecture room of

the chief economic insects with a study of insecticides, spraying machinery and other apparatus used in combating insects. The student will be given an opportunity of preparing sprays and gases used in combating insect pests, and demonstrations will be offered in the practical application of the insecticides. Each student will be required to work out the life history of at least three species of insects that are of economic importance, to mount these in exhibit cases and to write up an account of the work done. Prerequisite, Agricultural Entomology 1a and 1b. One recitation and six hours of laboratory work a week. Mr. Gilbertson; Mr. Severin.

Laboratory fee, \$1.00.

3a, 3b. Systematic Entomology—2 or more credits any term. This course, while primarily entomological, is designed to be of general use to students of biology. The aim of the course is to give the student a good idea of the aims and methods of insect classification. Each student will be required to do his own collecting and mounting of insects, altho the collections of the department will be available to the student at all times for reference work. One recitation and three hours of laboratory work a week for two credits. Mr. Severin.

4. Household Pests—3 credits Spring term. Household insects and other animals that are of economic importance together with methods for their extermination will be especially emphasized in this course. Two recitations and two hours of laboratory work a week. Mr. Gilbertson.

Laboratory fee, \$1.00.

5. Veterinary and Sanitary Entomology—5 credits Spring term. This course deals chiefly with the injurious insects affecting domestic animals and man. A discussion of the diseases transmitted thru these insects is an important part of this course. Three recitations and four hours of laboratory work a week. Mr. Gilbertson.

8. Nursery Inspection—3 credits Spring term. This course deals with the animal pests of nursery and greenhouse stock and is designed to acquaint the student with these pests, their life history and control. A portion of the term will be devoted to the study of state and federal regulations governing nursery stock. Actual experience of nursery and greenhouse inspection will be required of all students before credit is given in this course. Prerequisite, Agricultural Entomology 1a and 1b. One recitation and six hours of laboratory work a week. Mr. Severin.

FOREIGN LANGUAGES

ASSOCIATE PROFESSOR TROMANHAUSER; ASSOCIATE
PROFESSOR SMITH

Merely to acquire a good reading knowledge of a modern

language or to study a living language from the standpoint of grammar alone no longer suffices in this day and age, when we are advancing more and more toward internationalism.

Our entrance into world affairs compels us to meet and know our neighbors across the sea, as well as those south of the Rio Grande. Without a knowledge of their language and customs, an appreciation of these people, their literature, their music, their art is almost impossible. Likewise are business relations most difficult.

The time is not far distant when many Americans will be accepting positions in foreign lands, or positions in this country involving foreign business relations, with its consequent need for some knowledge of a modern language.

To meet this need the following courses are offered:

French

1a, 1b, 1c. **French**—3 credits each term. Ear training for sounds to prepare for the spoken language. Elements of grammar and composition to assist in an intelligent understanding of the language. Conversation begun. Three recitations a week. Miss Smith.

2a, 2b, 2c. **French**—3 credits each term. Modern French writers are read. The study of grammar is continued by means of composition and conversation. Letter-writing with students of France is begun. Three recitations a week. Miss Smith.

3a, 3b, 3c. **French**—3 credits each term. Facility and accuracy of translation are sought by a study of classical and modern authors. Advanced French prose composition is studied. Conversation continued. Three recitations a week. Miss Smith.

Spanish

1a, 1b, 1c. **Spanish**—3 credits each term. Reading, conversation, composition, drills, supplementary classified vocabulary; imported supplementary readers for collateral work for the stronger students. DeVitis, Spanish Reader. Three recitations a week. Miss Tromanhauser.

2a, 2b, 2c. **Spanish**—3 credits each term. History, geography, customs and general information concerning Spain and the Latin-Americans. Reading, conversation, composition, supplementary classified vocabulary, collateral reading for the aptest students. One main purpose in all the work is to cultivate intelligent sympathy for our Spanish-speaking neighbors. Text: DeVitis, Spanish Reader (or equivalent). Three recitations a week. Miss Tromanhauser.

3a, 3b. **Spanish**—3 credits Fall term; 3 credits Winter term. Three recitations a week. Text: *El Reino de las Incas*. Miss Tromanhauser.

HISTORY AND POLITICAL SCIENCE

PROFESSOR HARDING; ASSISTANT PROFESSOR YOUNG

The specific purpose of this department is to introduce the student to such studies as make him better prepared to understand and appreciate the institutions in the midst of which he lives and of which he is a part. The social sciences, in addition to their cultural value, furnish valuable training for citizenship and community leadership. The study of these sciences should encourage breadth of view, historic-mindedness and fairness of judgment. Constant endeavor is made to teach the practical application of the social, political and economic experiences of the race to the problems of modern life.

Students are encouraged in every way to make use of the college library, which is the tool house of the department.

1a. **Modern History**—3 credits Fall term. Political and social history of Europe from 1500 to 1789. A survey of sixteenth century Europe, dynastic and colonial rivalry, European society and governments in the eighteenth century. Text book, readings, papers and reports. Prerequisite, sophomore standing. Three recitations a week. Miss Young.

1b. **Modern History**—3 credits Winter term. Continuation of History 1a. History of Europe from the French Revolution to 1870. French Revolution and Napoleon; era of Metternich; democratic reform and revolution; growth of nationalism to 1870. Prerequisite, History 1a. Three recitations a week. Miss Young.

1c. **Modern History**—3 credits Spring term. Continuation of History 1b. The German Empire; France under the Third Republic; the new imperialism; the British Empire; international relations and the outbreak of the Great War, 1914. Prerequisite, History 1b. Three recitations a week. Miss Young.

2. **English History**—4 credits Fall term. A survey of English history from 1603 to the present time with special study of the development of political institutions. Prerequisite, college standing. Four recitations a week. Miss Young.

3a. **Industrial History of the United States**—3 credits Winter term. A general survey of the growth of industry, agriculture, com-

merce, transportation, population and labor in the United States from the period of beginning until 1860. Prerequisite, sophomore standing. Three recitations a week. Bogart's Economic History of the United States, supplemented by library readings, reports and papers.

3b. **Industrial History of the United States**—3 credits Spring term. Continuation of course 3a. American economic development from 1860 to the present time. Prerequisite, History 3a. Three recitations a week.

4a. **History of the West**—3 credits Fall term. A study of the settlement of the West and of the influence of the West upon national development from 1815 to 1860. Prerequisite, sophomore standing. Three recitations a week. Miss Young.

4b. **History of the West**—3 credits Winter term. A study of the political, social and economic development of the West from 1860 to the present. Prerequisite, History 4a. Three recitations a week. Miss Young.

5. **Latin American History**—3 credits Spring term. A study of the development of the countries and peoples of Latin America with a view to understanding their present political and economic conditions. Prerequisite, sophomore standing. Three recitations a week. Miss Young.

6. **International Relations**—3 credits Fall term. A study of the origin and evolution of the foreign policy of the United States, including the formation and evolution of the Monroe doctrine, Anglo American relations, imperialistic tendencies, the new Pan-Americanism, war aims of the United States, the U. S. in the Peace Conference, The League of Nations issue, and the after war tendencies of American foreign policy. Prerequisite, two courses in either history or government. Three recitations a week. Mr. Harding.

11. **American Government**—4 credits Fall term. A general survey of the principles and practices of American government as exemplified in the nation, in the states and in the several areas of local administration. Prerequisite, sophomore standing. Four recitations a week. Lectures, text-book, reports and discussions. Mr. Harding.

12. **Political Parties and Party History**—4 credits Winter term. This course is a study of American political parties and practical politics. History of political parties, party machinery, party morality, party problems, the suffrage, the spoils system, civil service reform, practical politics in legislative bodies, reform of the party system. Readings, class discussions, reports. Should be preceded whenever possible by course 11. Prerequisite, sophomore standing. Four recitations a week. Mr. Harding.

13. **Comparative Government**—4 credits Spring term. A com-

parative study of the governments of leading modern nations. It deals, not alone with governmental structures, but with the underlying principles, the motives and the inner spirit of the peoples. Should be preceded by courses 11 and 12 or by courses 1a, 1c. Prerequisite, sophomore standing. Four recitations a week. Mr. Harding.

21. **Economics**—4 credits Fall term. A standard course in the fundamental principles of economic science. Text book, class discussion and a limited amount of reference work. Prerequisite, junior standing. Four recitations a week. Mr. Harding.

22. **Agricultural Economics**—4 credits Winter term. A study of those economic principles which underlie the effective organization of the farm. The economics of production, problems of land tenure, the economics of marketing and the problem of maintaining and improving the economic conditions of the farmer. Text book, lectures, readings and reports. Prerequisite, History 21. Four recitations a week. Mr. Harding.

23. **Marketing and Cooperation**—3 credits Spring term. Marketing at country points; various types of wholesale traders; organized exchanges, auctions and public sales, private dealers and the middleman question, methods of direct selling, fundamentals of cooperation, cooperative sales agencies, government market bureaus, state owned terminal markets. Prerequisite, Course 21. Three recitations a week. Weld's Marketing of Farm Products and Powell's Cooperation in Agriculture are basic texts. Mr. Harding.

31. **Sociology**—4 credits Winter term. The fundamental principles of social science, including origin of races and institutions, social evolution, the social order, the social mind, social selection, progress and its conditions, social ideals, social control and social pathology. Lectures, readings, discussions and a term paper. Prerequisite, junior standing. Four recitations a week. Mr. Harding.

32. **Rural Sociology**—4 credits Spring term. A general survey of the field of rural sociology, including the following topics: types of communities, means of communication, movements of population, the rural social mind, rural morality, farmers organizations, rural recreation, religious and educational forces, the village in relation to rural life and reorganization of rural social forces. Prerequisite, History 31. Four recitations a week. Mr. Harding.

33. **Problems of Reconstruction**—4 credits Fall term. This course deals with American after-war social, labor, transportation and political problems. Should be preceded by at least one term of college work in the social sciences. Four recitations a week. Mr. Harding. (Omitted in 1920-21.)

HOME ECONOMICS

PROFESSOR CARLSON; ASSOCIATE PROFESSOR PIERSON; MISS LEATON; MISS HUSKINS; MISS KIRK; MISS BICKEL

The Home Economics Department has been installed in a new building. Equipment has been chosen with the view of making the department and all work given therein up to the standard of other state colleges. A practice cottage in which every senior girl will be expected to live a term of weeks to prove and apply what she has learned in home management, has been established and equipped. A cafeteria in connection with the college dormitories offers opportunity for laboratory work in institutional cooking and management.

New subjects are to be offered which will train students to enter the numerous fields now open to home economics graduates. Among such positions are, dietitians, institutional managers, extension workers, commercial food workers, tea room managers, caterers, costume designers, directors of specialty stores, etc. The chief aim is to reach as many of the young women of the state as possible and give each one a training which will fit her for a home and also give her a profession to follow.

In order that students may fill positions as teachers in the various types of school, special courses are given in the theory and practice of teaching home economics together with lessons in practice teaching which gives the student experience in conducting classes. Observations and criticisms of each student are made by an instructor. All the requirements of the Smith-Hughes Law for Vocational Education are fulfilled and graduates are given certificates for teaching vocational home economics.

Graduates who have done successful work find no difficulty in getting good positions, either thru the college bureau or otherwise.

Below is given the description of courses offered in the Home Economics department. Other electives will be added as the demand grows for them.

1a, 1b. **Food Preparation and Marketing**—4 credits Fall term; 4 credits Winter term. Study of foods; source; manufacture; marketing; care; etc. Fundamental principles and processes involved in choice, preparation, and serving of foods and food combinations. Ele-

mentary principles in serving of meals. Must be accompanied by Chemistry 1. Two recitations and six hours of laboratory a week. Miss Huskins.

Laboratory fee, \$3.00 each term.

2a, 2b. Food Preparation—3 credits Fall term; 4 credits Winter term. Principles involved in preservation of food. Laboratory work in canning, jelly making, pickling, drying, etc. Marketing, planning and preparation of meals; emphasis on cost; nutritive value economy and efficiency of time, labor and effort. Prerequisite, Food Preparation 1a, 1b, and Chemistry 1. Two recitations and six hours of laboratory a week. Miss Huskins.

Laboratory fee, \$3.00 each term.

5a, 5b. Dietetics—4 credits Winter term; 3 credits Spring term. Study of the fundamental principles of human nutrition and the application of these principles under varying conditions of age, environment, etc; the nutritive value and function of food; the determination of proper food requirement. Preparation of reference work from the latest and best material published on the subject of nutrition and dietetics. Prerequisite, Food Preparation 2a, 2b and Organic Chemistry. Three recitations and three hours of laboratory a week. Miss Pierson.

Laboratory fee, \$3.00 each term.

6. Special Problems in Cookery—4 credits Fall term. Problems concerning food questions of today. Comparisons as to the value and efficiency of fireless cooker, double boiler, steamers, pressure cookers, etc. Study of current and local food problems. Opportunity for work to develop students resourcefulness. Open to juniors and seniors. Two recitations and six hours of laboratory a week. Miss Pierson.

Laboratory fee, \$3.00.

7. Demonstration Cookery—4 credits Spring term. To meet demand for better training in extension teaching, lecture work, commercial work and similar fields. Demonstration by instructors, students and specialists from outside the department. Discussion of equipment, organization, method of procedure, etc. Open to juniors and seniors. Two recitations and six hours of laboratory a week. Miss Carlson; Miss Pierson.

Laboratory fee, \$3.00.

8. Home Nursing—3 credits Winter term. Elements of nursing, the methods best employed in the home for the care of children, the sick and the aged. Care of the sick, bedmaking, bandaging, simple home remedies and how to meet emergencies, etc. Demonstrations in the hospital with the lectures. Open to all women students in the college. Two recitations and two hours of laboratory per week. In charge of trained nurse.

Laboratory fee, \$.50.

9a, 9b. **Elementary Sewing**—3 credits Fall term; 4 credits Winter term. Study of constructive stitches; use and care of sewing machine; use of commercial patterns; mending; patching; construction of under garments, waists, dresses, etc.; budgets; study of materials; hygiene of clothing; etc. Two recitations and six hours of laboratory a week. Miss Leaton.

Laboratory fee, \$.50 each term.

10. **Textiles and Laundry**—4 credits Spring term. Study of principal textile fibers in various stages from raw fiber to manufactured cloth; weaves; adulterations; economic conditions; budgets; principles and processes in laundry work. Prerequisite, Elementary Sewing and Chemistry I. Two recitations and six hours of laboratory a week. Miss Leaton.

Laboratory fee \$2.00.

11. **Dressmaking**—4 credits Spring term. Use of dress form, making tight fitted lining, use of dresses, etc. Elements of costume design; suitability of materials, cost, etc. Prerequisites, Elementary Sewing, Textiles and Laundry. Six hours of laboratory a week. Miss Leaton.

Laboratory fee \$.50.

12. **Drafting and Dressmaking**—3 credits Fall term. Drafting of simple patterns; construction of waists and dresses; renovation of clothing; designing. Prerequisite, dressmaking. Six hours of laboratory a week. Miss Leaton.

Laboratory fee \$.50.

13. **Modeling and Advanced Dressmaking**—4 credits Spring term. Modeling in paper, cheesecloth, cambric, and crinoline on forms; construction of garments from these patterns. Embroidery stitches and simple needle work applied. Prerequisite, Dressmaking. Nine hours of laboratory per week. Miss Leaton.

Laboratory fee \$1.50.

14. **Millinery**—4 credits Winter term. Making patterns; construction of frames; covering same; simple trimmings; renovation of hats and materials; retrimming, etc. Prerequisite, Sewing 9a, 9b. Nine hours of laboratory a week. Miss Leaton.

Laboratory fee, \$1.00.

15a, 15b. **Household Management**—3 credits Fall term; 3 credits Winter term. The organization and application of all the principles learned in the subjects of the department. A study of efficient housekeeping, budgets and accounts; domestic service, community enterprises, etc. Purposes, functions and activities of the home. Laboratory work on problems of cleaning, renovating, repairing, labor saving methods, etc. Required of seniors. Three recitations and three hours of laboratory a week. Miss Pierson.

Laboratory fee, \$1.00 each term.

16. **Practice Cottage**—4 credits. Before receiving a degree all seniors are required to live for a period of nine weeks in the cottage. The work is planned and done entirely by the students. A home economics faculty member lives in the cottage and supervises the work. Miss Pierson.

17. **Institutional Management**—5 credits Spring term. Skill in buying, handling, storing and preparing large quantities of food and problems of menu planning, marketing, selection of equipment, management of servants, accounting, etc. Laboratory work in the dormitory cafeteria and thru college functions. Open to seniors. Three recitations and laboratory hours to be arranged.

Laboratory fee \$2.00.

Education 7a, 7b. **Special Methods Teaching Home Economics**—3 credits Fall term; 3 credits Winter term. Discussions and problems concerning the standards and methods of Home Economics Education in various types of schools. Courses of study; lesson plans, observation reports, special readings and demonstrations before the class. A study of school organization and management in relation to Home Economics. Prerequisites, Psychology, History of Education, and Principles of Teaching. Three recitations a week. Miss Carlson.

21. **Social Usage**—1-2 credit Fall term. This course together with Hygiene (Course 20) is required of freshman women of the Home Economics Course. Miss Carlson.

Education 9. **Practice Teaching in Home Economics**—3 credits any one term. This course runs parallel to Education 7a and 7b. Students are given the responsibility of taking part or full charge of classes in sewing and cookery in the public schools, in the School of Agriculture and in preparatory department. Required of students taking Teachers' Training Course in Home Economics.

20. **Hygiene**—1-2 credit Fall term. General study of hygiene of the person, clothing and surroundings with consideration of social and ethical questions. One recitation per week. Miss Gerlach.

22. **Survey of Home Economics**—1 credit Spring term. This course introduces the student to the Home Economics subjects giving a survey and correct outlook as to the importance of this field. Two recitations a week. Miss Carlson.

HORTICULTURE AND FORESTRY

PROFESSOR HANSEN; ASSOCIATE PROFESSOR McCALL

In this department the work is given from two standpoints. From the one, especially in the study of genetics, emphasis is placed upon the general philosophy of the sub-

ject as being essential to a general education. The claim is made that some of the principles of horticulture and forestry are essential to any well rounded education and to the best preparation for citizenship. The second standpoint is that of students intending to make a life work of horticulture or forestry, either as a business or a profession. Throughout the course full use is made of the student's attainments in the various sciences underlying these subjects. The variation of plants and the principles and methods of their development under the hand of man are considered, as well as their propagation and cultivation.

Field and laboratory exercise emphasize the lecture and recitations of the class room. The habit of independent investigation and close observation is encouraged by requiring written reports of outdoor excursions or demonstrations. Excellent facilities for practical illustration are offered by the ninety acres of experiment station horticulture grounds and college campus. In this domain are included orchards, forestry plantations, nurseries, vegetable gardens, small fruit plantations, flower borders and a collection of ornamental plants. Special attention is paid to the breeding of hardy fruits adapted to prairie conditions and the work in this line is now second to none in extent. The department greenhouse consists of two sections, one for the general floriculture work and the other for fruit-breeding experiments. In addition, the horticulture buildings contain class rooms, laboratory, grafting and potting rooms and storage cellars.

Special stress is placed upon practical work in the grafting room.

The following work is offered:

1a, 1b. **General Horticulture**—2 credits Spring term; 2 credits Fall term. A study of the elementary principles of fruit growing and vegetable gardening, as related to home production, and the planting and care of home grounds. A two hours laboratory period or one lecture and one three hour laboratory period per week. Mr. McCall.

2. **General Forestry**—2 credits Fall term. A study of the principles of forestry as applied to shelterbelts and woodlots; propagation and growth characteristics of trees; a short course in the identification of the trees in the vicinity of the State College. One lecture and one three hour laboratory period a week supplemented by text and assignments. Mr. McCall.

3a, 3b. **Tree Fruit Culture**—2 credits Fall term; 2 credits Spring term. The growing of tree fruits, including varieties, soils, fertilizers, spraying, pruning, cultural practices, harvesting and storing. Two two-hour laboratory periods or one lecture and one three-hour laboratory period a week. Pre-requisite General Horticulture, 1a, 1b. Mr. McCall.

4. **Systematic Pomology**—2 credits Fall term. Origin, history and relationship of economic fruits, practice in description and identification of fruits, fruit judging, etc. Two two-hour laboratory periods or one lecture and one three-hour laboratory period a week. Prerequisite, General Horticulture 1a, 1b. Mr. McCall.

5. **Small Fruit Culture**—2 credits Spring term. The growing of small fruits, including soils, fertilizers, planting, training, culture, handling and marketing. One lecture and one three-hour laboratory period a week. Mr. McCall.

6. **Plant Breeding**—2 credits Spring term. The principles of breeding as applied to flowers, vegetables, and fruits. One lecture and one three-hour laboratory period a week. Prerequisite, Heredity. Mr. Hansen; Mr. McCall.

7a, 7b. **Nursery Practice**—2 credits Fall term; 2 credits Spring term. Propagation and handling of fruit and ornamental plants. Two two-hour laboratory periods a week. Prerequisite, General Horticulture, 1a, 1b. Mr. Hansen.

8. **Landscape Gardening**—2 credits Fall term. General principles of landscape gardening; most common plant material employed; practice in simple plan drawing for home and school ornamentation. One lecture and one three-hour laboratory period a week. Mr. McCall.

9. **Floriculture**—2 credits Fall term. Practical methods of growing flowers and other ornamental plants. Two two-hour laboratory periods a week. Mr. McCall.

10. **Home Vegetable Gardening**—2 credits Spring term. Growing vegetables for home use; including choice of varieties, fertilizers, seeding, transplanting, culture, pest control, harvesting and storing. Two two-hour laboratory periods a week supplemented by text book assignments. Mr. McCall.

11. **Advanced Vegetable Gardening**—2 credits Winter term. Vegetable forcing in greenhouses, hotbeds, and cold frames. Greenhouse construction and management; two two-hour laboratory periods a week, supplemented by text and assigned readings. Prerequisite Home Vegetable Gardening, Horticulture 10. Mr. McCall.

12. **Commercial Vegetable Gardening**—2 credits Spring term. Business methods followed by professional truck growers, labor problems, rotations, companion and successive cropping, and special problems in production of vegetables for market. Two two-hour labora-

tory periods a week supplemented by lectures and assignments. Pre-requisite. Advanced Vegetable Gardening, Horticulture 11. Mr. McCall.

13. **Systematic Olericulture**—2 credits Winter term. Systematic study and description of leading varieties of vegetables. Two lecture periods a week. Prerequisite, Systematic Botany. Mr. McCall.

14a, 14b, 14c. **Landscape Design**—2 credits each term. Landscape composition; civic art; advanced composition. Solution of problems in landscape gardening. Prerequisite, Horticulture 2, 8 and 17.

15. **Horticultural Problems**—1 credit each term. Assigned problems for horticulture, experimental work in green-house gardens and orchards, keeping records, etc. Hours for consultation. For Seniors. Mr. Hansen, Mr. McCall.

16. **Floral Arrangement**—1 credit Winter term. Elective for Junior or Senior girls or others interested in commercial floriculture. A study of principles and methods of arrangements of flowers for various types of decorations. One two-hour laboratory period a week with assignments. Mr. McCall.

17. **Plant Materials**—2 credits Spring term. A study of trees, shrubs, and flowers in their relation to landscape work. One lecture and one three-hour laboratory per week. Mr. McCall.

MANUAL ARTS

ASSOCIATE PROFESSOR VOIGT, MR. LAURSEN

On account of the growing demand for men to teach the manual and industrial art subjects this department has been added to the State College. By electing this work with that in the mechanical engineering, auto-mechanic and educational departments students are well fitted to instruct in the manual art and industrial subjects.

The shops are located in the northeast wing of the Engineering Building, and have the following equipment: band saw, variety saw, jointer, mortiser, grinder, speed lathe and planer, all with individual motor drive, a trimmer, twenty-six individual benches and all the necessary tools. The plan is to have a finishing room added by the beginning of the fall term.

2a, 2b. **Cabinet Making**—2 credits Fall term; 2 credits Winter term. This course is open to all collegiate students and because of the fact that many students have not had any manual training experience it begins with a review of the hand tool processes. This is

followed by instruction in the care and use of the woodworking machines. Commercial methods of furniture manufacture are studied and followed as much as possible. No prerequisites. Mr. Voigt.

Laboratory fee 75c a credit hour.

3. **Wood Turning**—2 credits any term. The work in wood turning is offered in each term and on account of the equipment the time is arranged for the convenience of the students. The instruction includes turning between centers, chuck and face plate turning. In addition to the exercises, ornamental turnings are made. Prerequisite, Manual Arts 2a. Mr. Voigt.

Laboratory fee, 75c a credit hour.

4. **Period Furniture**—2 credits Spring term. This course is open only to those students who have had at least two terms of collegiate work in this department. It includes the study of period furniture, turnings and carvings and their proper applications. Cabinet work involving these principles will be constructed. Prerequisite, Manual Arts, 2a, 3.

Laboratory fee, 75c a credit hour.

5. **Carpentry**—2 credits Spring term. This course is offered in the spring term so that much of the instruction can be given outside of the shop in practical work of construction of buildings. Rafter cutting, window and door frame building as well as plan reading are studied. No prerequisite. Mr. Laursen.

Laboratory fee, 75c a credit hour.

6. **Wood Finishing**—2 credits Winter term. Wood finishing is offered to students who are interested in learning to apply the different finishes. A study is made of the different kinds of cabinet woods and finished panels of each are made. The most elemental finishes will be used first, then shellacs and varnishes. No prerequisite. Mr. Laursen.

Laboratory fee, 75c a credit hour.

7. **Saw Filing**—1 credit any term. This course is offered to students who wish to learn how to file saws but do not want any bench wood work. Instruction is given in setting and filing hand, rip and circular saws as well as repairing old ones. No prerequisite. Mr. Laursen.

Laboratory fee, 75c a credit hour.

MATHEMATICS

PROFESSOR BROWN; ASSISTANT PROFESSOR LATTIN; MISS
McCORDIC

The general work of this department is planned to cultivate habits of systematic and accurate thinking, as well as

facility in making calculations. Independent effort is encouraged to the greatest possible extent, the solution of problems and original demonstration forming an important part of each course.

The department advises general science students, choosing major work in the mathematical and physical sciences (Group 1), to elect courses 2, 3, 4, 5a, 5b and 6. The courses 1a, 1b, and 1c are arranged for general science students, choosing major work in the biological sciences (Group 2), and for agricultural students who have only a limited amount of time for mathematical study.

A course in solid geometry will be offered for the benefit of engineering students who have not had this subject before entering college.

1a. **Elementary Mathematical Analysis**—3 credits Fall term. The main emphasis of the work for this term will be placed on algebraic processes and the principles underlying graphic representation. Prerequisite, one year of high school algebra and plane geometry. Three recitations a week. Mr. Lattin.

1b. **Elementary Mathematical Analysis**—3 credits Winter term. Emphasis will be placed on trigonometry and its application to physics and geometry. Prerequisite, Mathematics 1a. Three recitations a week. Mr. Lattin.

1c. **Elementary Mathematical Analysis**—3 credits Spring term. A study of the mathematics underlying investments and life insurance, the progressions, and the theory of probabilities with applications to correlation problems. Prerequisite, Mathematics 1a and 1b. Three recitations a week. Mr. Lattin.

2. **College Algebra**—5 credits Fall term. Elementary topics, functions and their graphs, review of the quadratic equation, complex numbers, theory of equations, permutations and combinations, partial fractions, logarithms and determinants. Prerequisite, three semesters of elementary algebra. Five recitations a week. Required in freshman Engineering, elective in General Science and the Agricultural Courses. Mr. Lattin; Miss McCordic.

3. **Plane Trigonometry**—5 credits Winter term. The functions of acute angles, the solution of the right triangle, goniometry, the solution of the oblique triangle, general applications of trigonometry. Prerequisite, one year of plane geometry and one and one-half years of high school algebra. Five recitations a week. Required in freshman Engineering, elective in General Science and Agricultural Courses. Mr. Lattin; Miss McCordic.

4. **Analytic Geometry**—5 credits Spring term. Co-ordinate sys-

tems, projections, loci, the straight line, conics, the general equation of the second degree. Prerequisite, Mathematics 2 and 3. Five recitations a week. Required in freshman Engineering, elective in General Science and Agricultural Courses. Mr. Lattin, Miss McCordic.

5a. **Calculus**—5 credits Fall term. Differential calculus, with application to engineering problems, integration of standard forms, definite integrals, rational fractions, integration by parts. Prerequisite, Mathematics 4. Five recitations a week. Required in sophomore Engineering, elective in General Science and Agricultural Courses. Mr. Brown; Mr. Lattin.

5b. **Calculus**—5 credits Winter term. The applications of calculus to problems involving areas, lines, surfaces, and volumes; successive and partial integration, centers of gravity and moments. Prerequisite, Mathematics 5b. Five recitations a week. Required in sophomore Engineering, elective in General Science and Agricultural Courses. Mr. Brown; Mr. Lattin.

6. **Analytic Mechanics**—5 credits Spring term. The applications of calculus in the field of Pure Mechanics. Prerequisite Mathematics 5b, of which it is a continuation. Five recitations a week. Required in sophomore Engineering, elective in General Science and Agricultural Courses. Mr. Lattin.

7. **Solid Analytic Geometry**—3 credits Winter term. The application of coordinate systems to geometry of three dimensions. Prerequisite, Mathematics 4. Three recitations a week. Offered primarily for students who are interested in advanced mathematical study and graduate engineering work. Mr. Lattin.

8. **Differential Equations**—3 credits Spring term. A study of differential equations with the application in the fields of mechanics and physics. Elective in all courses. Prerequisite, Mathematics 5b. Three recitations a week. Mr. Brown; Mr. Lattin.

9. **Method of Least Squares**—3 credits Spring term. A study of the law of error based on the theory of probability. Three recitations a week. Prerequisite, Mathematics 5b. Mr. Lattin.

20. **General Astronomy**—3 credits Spring term. The aim of the course will be to familiarize the student with the general non-technical phases of astronomy. Text and a limited use of instruments. Prerequisite, sophomore standing. Three recitations a week. Mr. Lattin.

MECHANICAL ENGINEERING

PROFESSOR SOLBERG; ASSOCIATE PROFESSOR HOY; MR.
ANDREWS

The object of the work offered is to give the students a thorough training in the theoretical principles underlying the

science of mechanics and machines and at the same time to enable them to become particularly familiar with some of the numerous applications of these principles.

The instruction is both theoretical and practical. The usual methods of text-book study and lectures are employed, but the student is required to put into practice, as far as possible, the instruction he receives. Hence the work of the class-room is supplemented and practically exemplified by practice in shops. The student not only studies the theories of constructing and operating machinery, but in the drawing room he designs, and in the shop he constructs and operates such machines. It is believed that those who complete this course will be able to fill responsible positions in manufacturing establishments.

The department is located in the Engineering Building.

The workshops are supplied with a large variety and quantity of tools.

The machine shop is furnished with a large number of engine lathes of different sizes, universal milling machine, shaper, planer, tool grinder, drill press, emery wheels and a great variety of hand tools. The machinery is driven by a 50-horse power steam engine and two motors.

The Experimental Engineering Laboratory is equipped with a 100,000 pound vertical screw testing machine, for making tensile and compressive tests of the various materials of construction; an automatic shot cement briquette testing machine; a gas engine; a 10 by 10 steam engine; an 8 by 10 steam engine; a 5 by 7 steam engine; and there are also available for this work a 12 by 14 steam engine and two 48 x 16 horizontal tubular boilers. A calorimeter for determining the heat values of gases; a valorimeter for making British thermal unit tests of coal, and an apparatus for flue gas analysis are also used in this work.

The laboratory also possesses a large amount of small apparatus such as indicators, planimeters, steam gauges, thermometers, etc., and a complete outfit for making tests of sand, cement and concrete.

Work in architectural drawing and designing is offered.

Additional work along this line will be given to students who desire it.

The following work is offered:

1a, 1b, 1c. **Forging**—2 or more credits each term. Demonstrations and work in the care and use of the fire and forging tools together with the work in iron, mild steel and tool steel. The class work will include work in bending, drawing out, upsetting, shaping and tempering of tools, and art smithing. The course will offer a good outline in metal work for manual training. Open to all students. Three hours a week for each credit. Mr. Andrews.

Laboratory fee \$.75 per credit each term.

2a, 2b. **Machine Shop**—3 credits Winter term, 3 credits Fall term. Includes a study of the materials used in machine work, shop sketching, methods of laying out work, and the elementary principles of machine work; problems involved in the use of various machine tools. Regular text book and class room work supplements the actual work in the shop. Open to all students. Three hours a week for each credit. Mr. Hoy.

Laboratory fee \$.75 per credit, each term.

3a, 3b. **Engineering Drawing**—3 credits Fall term, 2 credits Winter term. Instrumental, geometrical problems and parts of machines. Open to all students who have had high school mathematics. Three hours a week for each credit. Mr. Solberg.

4a, 4b, 4c. **Architectural Drawing**—2 or 3 credits each term. Rendered drawings of simple buildings, examples of various orders, giving facility in draughtsmanship, familiarizing students with principles introduced in practical problems, exercises in composition and details. Open to all students who have had high school mathematics. Three hours a week for each credit. Mr. Solberg.

5. **Descriptive Geometry**—2 credits Spring term. Instruction in methods of representing by drawing all geometrical magnitudes and solution of problems relating to these magnitudes in space. Prerequisite, plane geometry. Six hours a week in recitation and drawing work. Mr. Solberg.

6. **Machine Design**—3 credits Winter term. Solution of various problems involving the design of simple parts of the machine. Prerequisite, Engineering Drawing. Three three-hour laboratory periods a week.

7. **Elements of Mechanism**—4 credits Spring term. Elements of machinery, velocity ratios, graphic representation of speed and acceleration; motion transmitting parts, such as gears, belts, cams, screws, link work; automatic feeds, paralleled and quick return motions; designing. Prerequisite, Trigonometry. Four recitations a week. Mr. Solberg.

8. **Machine Design and Kinematics**—3 credits Fall term. Continuation of Machine Design and problems in the design of motion transmitting appliances. Prerequisite, Mechanical Engineering 7. Three three-hour periods a week. Mr. Solberg.

9a, 9b. **Steam Engines and Thermodynamics**—3 credits Fall term, 3 credits Winter term. Study of the modern steam engine, slide valve, and when in combination with independent cut-off valves, link motion and Zeuner diagrams, reciprocating parts and indicator practice; the principles of the theory of heat which are necessary to a study of the various kinds of heat engines; the application of laws of thermodynamics to the steam engine and a study of steam engine economy by entropy temperature analysis and by other graphical methods. Prerequisite, Calculus. Three recitations a week. Mr. Solberg.

10. **Steam Boilers**—3 credits Spring term. Advantages and disadvantages of using the various forms of boilers, methods of construction, tubes, plates, riveting, bracing, grate and heating surface, gauges and feed appliances, setting, care and operation. Prerequisite, Mechanical Engineering 9. Three recitation a week. Mr. Solberg.

11. **Engineering Design**—5 credits Winter term. Continuation of Mechanical Engineering 8, with special reference to steam machinery. Solution in the drawing room of some practical problems in design and making working drawings of same. Five three-hour recitations a week. Mr. Solberg.

12a, 12b, 12c. **Engineering Laboratory**—2 credits each term. Testing of materials of construction including investigation of problems in connection with use of concrete; testing of gauges, thermometers, planimeters; determination of heat value of coal; use of steam and gas engine indicators; throttling and separating calorimeters, dynamometers and Prony brakes; and complete efficiency tests of engines and boilers under actual running conditions. Prerequisite, Mechanical Engineering 9 and 10, and Civil Engineering 6. Six hours of laboratory work a week. Mr. Hoy.

Laboratory fee \$2.00 each term.

13. **Gas and Oil Engines**—2 credits Spring term. Study of the theory, design and operation of gas, gasoline and oil engines and of the various types of gas producers. Prerequisite, Mechanical Engineering 9. Two recitations a week. Mr. Solberg.

14. **Heating and Ventilation**—3 credits Spring term. A study of the principles underlying the design of the various systems of heating and ventilation in common use, including such details as loss of heat from buildings, problems in proportioning ventilating ducts; and the arrangement of systems of piping for steam and hot water. Prerequisite, Mechanical Engineering 9. Three recitations a week. Mr. Solberg.

15. **Power Plant Design**—4 credits Spring term. Design of a power station including buildings and roofs for an up-to-date plant. Prerequisite, Mechanical Engineering 10. Four three-hour laboratory periods a week. Mr. Solberg.

MILITARY SCIENCE AND TACTICS

CAPTAIN BRADLEY

The Department of Military Science and Tactics consists of a Senior Division, Infantry Unit, Reserve Officers Training Corps. All physically fit male students of the Freshman and Sophomore classes are required to take military training unless excused by the president of the institution upon the recommendation of the professor of military science and tactics.

1a, 1b, 1c. **Military Science and Tactics**—3 credits each term. Required of freshmen. Three hours a week.

2a, 2b, 2c. **Military Science and Tactics**—3 credits each term. Required of sophomores. Three hours a week.

Practical and theoretical instruction is given in the elementary subjects of Military Science. The work is progressive with a different schedule of instruction for each class.

This course for the Freshman and Sophomores is called the "Basic Course." Upon completion of the two years of the Basic Course, a student, upon the approval of the president of the institution and the professor of military science and tactics, may take the Advanced Course during his Junior and Senior years. This course requires five hours a week part of which are recitations and require outside preparation and for which two credits are given. Men taking the Advanced Course are paid commutation of rations by the Government of the United States at a rate prescribed each year by the Secretary of War. Upon satisfactory completion of the Advanced Course, the student is given a commission in the Officers Reserve Corps.

The principal purposes of this military training are to train a large number of men each year, who in case of emergency will have some military training; to help develop the student physically; and for those taking the Advanced Course, to prepare them to hold a commission in the Officers Reserve Corps.

Uniforms and equipment are furnished by the Government.

The College has a large Armory, the main floor of which is one hundred and sixty five feet long and one hundred feet wide. This makes it possible to carry on the training regardless of weather conditions.

MUSIC

PROFESSOR CHRISTENSEN; ASSOCIATE PROFESSOR PETERSON; MISS WYNN; MISS CARLISLE; MISS DVORAK; MR. JOHNSON; MRS. MILNE; MRS. BINNEWIES

The purpose of this department is to give the very best musical training possible at a minimum cost, without sacrificing the high standards of the institution.

It is generally recognized that few branches of study require a greater and broader training of the mind than does the study of music, and not only cultivation of the mind, but of the emotions as well. The emotional is a phase too often neglected in education, although it has so important a part in life. In music one must learn to control—to keep in the background—one's own emotions, in order to give true expression to the thoughts of the master minds which have so wonderfully woven the beautiful harmonies.

A knowledge of music also serves to give proper balance to an education, the aesthetic side of which is too often neglected.

The work of the department is arranged with the view of supplying the needs more especially of those who wish to broaden themselves and to make music a part of their general education.

Advantages

The hearing of good music is most important in getting a proper musical education. Splendid opportunities in this direction are given in connection with the high grade faculty concerts, and an Artists' course which consists of recitals by some of the best musicians of the country.

In addition to these advantages, the department maintains a Choral Union, a Chapel Choir of twenty-four picked voices, a Men's Glee Club, a Women's Glee Club, a Ladies' Band, a String Quartet, a Symphony Orchestra and a Military Band.

All these organizations appear in concerts during each school year.

The Choral Union has presented Handel's "Messiah" for six consecutive years. It has also produced "Hiawatha"

and "The Death of Minnehaha" by Coleridge-Taylor, "Elijah" by Mendelssohn, "The Rose Maiden," "Fair Ellen," "The Redemption," "Faust," the comic opera "H. M. S. Pinafore," etc.

Recitals are also given by students at various times during the year and attendance is obligatory upon each student of the department.

Students' Convocation

The Music Students' Convocation meets once each month, at which programs are given by students or faculty. As this is part of the school work each student of music is required to be present.

Equipment

The department of music occupies rooms in the east portion of the Administration building, adjoining the Auditorium. Its equipment includes three Knabe Grand pianos, one Steinway grand and one Brambach Baby grand with a large number of excellent practice pianos.

The Auditorium, in which all concerts are given, has a seating capacity of over one thousand. A two-manual Estey organ is being built and will be ready for use before the close of the current school year.

A New Edison phonograph has recently been added to the equipment and a large number of excellent records secured as a nucleus for a library.

Conditions for Entrance

The candidate for admission to the College must be at least fourteen years of age and of good moral character, and must have completed the work of the public schools as far as the ninth grade.

Students of music will be required to take at the same time at least eight hours work outside of the department approved by the classifying officer. Students of Public or High Schools may enroll if written permission from their principal is presented.

Absences

No lessons will be made up except those missed because

of sickness and when reported in advance to the instructor. If absence is necessary for other reasons permission must be obtained from the administration.

Lessons will in no case be made up after the close of the quarter.

In view of the extremely low tuition, lessons missed on account of college holidays will not be made up.

Courses

Two courses are available for students of this department.

1. Preparatory.
2. Collegiate.

The Preparatory Course is open to all beginners and consists of rudiments, tone production, formation of correct habits of thought and execution, etc.

The Collegiate Course leads to graduation and consists of four years' work. To complete this course, the student must have secured a thorough knowledge of harmony, theory and history as outlined. Upon its completion, the student will be given a diploma in music, provided the entrance requirements to the freshman class of the college have been completed. A certificate of proficiency or merit is awarded at the completion of the junior year.

For convenience, music students who have completed the entrance requirements to the freshman class and one year of the collegiate course in music, will be ranked as though they were carrying full college work, provided that in addition to the full collegiate courses in music they carry other college work amounting to twelve credits.

Credits

Credit for music is assigned on the same basis as credit for regular college work, that is, three hours' work a week in the class room and in practice counts as one credit. Students are expected to spend six hours in practice in connection with each half-hour lesson.

Music credits, not to exceed a total of ten, nor more than three in any one year, will be accepted from candidates for

the degree of Bachelor of Science. For regulation governing elective work in music see page 66.

The following credits are awarded for work in this department, each credit representing not less than three hours of work in recitation and preparation:

1. **Piano or Organ**—2 half hours per week 4 credits per term.
2. **Piano or Organ**—1 half hour per week 2 credits per term.
3. **Voice**—2 half hours per week 4 credits per term.
4. **Voice**—1 half hour per week 2 credits per term.
5. **Violin or Cello**—2 half hours per week 4 credits per term.
6. **Violin or Cello**—1 half hour per week 2 credits per term.
7. **Wind Instruments**—2 half hours per week 4 credits per term.
8. **Wind Instruments**—1 half hour per week 2 credits per term.
9. **Harmony, Counterpoint and Composition**—2 half hours per week 2 credits per term.
10. **Harmony, etc.**—1 half hour per week 1 credit per term.
11. **History of Music**—1 hour per week 1 credit per term.
12. **Music Essentials and Forms**—1 half hour per week 1 credit per term.
13. **Ear Training**—1 half hour per week 1 credit per term.
14. **Glee Clubs**—1 credit per year.
15. **Choral Union**—1 credit per year.
16. **Chapel Choir**—1 credit per year.
17. **Orchestra**—1 credit per year.
18. **Ladies' Band**—1 credit per year.

OUTLINE OF COLLEGIATE COURSE

First Year

	Fall	Winter	Spring
*Applied Music (Major work)	4	4	4
Harmony	2	2	2
Choral Union, Orchestra, etc.			1
English	3	3	3
Foreign Language	3	3	3
Military or Physical Culture	1	1	1
Electives	5	5	5
	<hr/> 18	<hr/> 18	<hr/> 19

Second Year

*Applied Music (Major work)	4	4	4
Harmony	2	2	2
History of Music	1	1	1
Ear Training	1	1	1
History of Music	1	1	1
Choral Union, Orchestra, etc.			1
English	3	3	3

Military or Physical Culture	1	1	1
Electives	5	5	5
	<hr/>	<hr/>	<hr/>
	17	17	18

Third Year

*Applied Music (Major work)	4	4	4
Counterpoint	2	2	2
**Applied Music (minor work)	2	2	2
Choral Union, Orchestra, etc.			1
Psychology	4	4	4
Music Essentials and Forms	1	1	1
	<hr/>	<hr/>	<hr/>
	17	17	18

Fourth Year

*Applied Music (Major work)	4	4	4
Composition	2	2	2
Music Essentials and Forms	2	2	2
Choral Union, Orchestra, etc.			1
Electives	8	8	8
	<hr/>	<hr/>	<hr/>
	15	15	16

Studies in bold faced type are required for graduation, the others are suggested as electives in a well balanced course.

Voice

MISS WYNN

The teaching of voice is based on the principles of the Italian bel canto, beautiful singing, and of the old French school, which gives greater attention to style and diction. Combined with a thorough knowledge of breath control, diaphragmatic breathing, the voice is developed easily and surely with breath, tone-placing and diction, all equal factors in its growth.

Special attention is paid to the needs of each pupil, with individual exercises and studies selected according to the requirements of each voice.

*Piano, voice, organ or other instrument, two lessons per week.

**Piano, voice, organ or other instrument, one lesson per week. For students majoring in piano, minor work of one year in voice or some instrument is required. For students majoring in voice or instruments other than piano, minor work of one year in piano is required.

Study will be made of the interpretation of songs and ballads chosen from the best of French, Italian, English and American composers with strict attention to rhythm, enunciation and phrasing.

COLLEGIATE COURSE

First Year—Breath movement, teaching the use of the diaphragm, the building of the chest and the proper position for singing. Exercises for the development and placing of the voice. Sieber's thirty-six eight measure vocalizes, manuscript exercises in articulation and phrasing. Easy songs in English.

Second Year—Continued breath work. Scale practise for precision and agility. Studies by Lutgen, Concone, Tosti and Vaccai. Old Italian, French and English songs.

Third Year—Voice development continued. Songs in French, Italian and English. Arias and duets from operas.

Fourth Year—Exercises continued as above, increasing in difficulty. Recitatives and arias from standard oratorios and operas. Advanced songs by American composers.

Piano

ASSOCIATE PROFESSOR PETERSON; MISS CARLISLE; MRS. MILNE; MRS. BINNEWEIS

The study of piano is conducted with a view to balancing more perfectly the training of the mind and the cultivation of technical power. Too often stress is placed upon one or the other, more frequently the latter, to an extreme. Technic is but the means to an end; i. e., the correct interpretation of the masters, and should be so considered.

Special attention is directed from the very beginning to the student's habit of thinking. This is done largely through the method of harmonic analysis and memorizing in an orderly and concentrative manner.

The musical side of the student's personality is brought into action through intelligent and artistic interpretation and its development is materially assisted by his having the opportunity to hear good music, artistically rendered as often as possible.

In technical development, special work is given for the acquisition of finger strength and independence, a correct po-

sition of the hand and purity of tone. Since it is now generally believed that the purest and sweetest tones are secured from direct finger action, this is much emphasized throughout the course.

These fundamental ideas are associated with the principle, the understanding of which is so necessary to the successful teacher, that efforts should continually be made to render the study of the piano less irksome and as intensely interesting to the student as it can be made.

PREPARATORY COURSE

An elementary course is offered to students who are not sufficiently advanced to enter the collegiate course.

COLLEGIATE COURSE

First Year—Etudes of Heller, Czerny, Foote; selections from the Bach suites; easier sonatas by Haydn and Mozart; selected compositions by Mendelssohn, Schubert, Chopin, Schumann, Grieg, MacDowell, etc.

Second Year—Studies from Bach, Suites and Inventions; Heller, Czerny and others; sonatas by Mozart and Beethoven; pieces by Weber, Chopin, Mendelssohn, Schumann, Grieg, MacDowell, Liszt and others; also some of the easier Concertos of Mendelssohn, Weber, Mozart, etc.

Third Year—Bach, Well Tempered Clavichord; Studies by Foote, Chopin, Liszt; Sonatas by Schubert, Weber, Grieg, Beethoven, Chopin; concert pieces selected from the works of Weber, Mendelssohn, Schumann, Liszt, Rubinstein and the modern French, Russian and American composers; Concertos by Beethoven, Rubinstein, Chopin, Schumann, Saint Saens, etc.

Fourth Year—Continuation of above; graduate programs prepared, the science of building and arranging programs, advanced work given to develop and broaden the sense of the artistic.

Pipe Organ

ASSOCIATE PROFESSOR PETERSON; MRS. MILNE

A splendid two manual Estey Pipe organ has been presented to the college by its Alumni and will be installed in the Auditorium for use this year. Practice organs will also be added to our equipment as needed.

To pursue the study of pipe organ successfully the student should possess a certain facility in sight reading at the piano.

COLLEGIATE COURSE

First Year—Dunham's Organ School, easy pedal studies, Organ Registration, Hymn Playing, Bach Chorals, easy pieces by standard composers.

Second Year—Buck's Pedal Phrasing studies; Bach Chorals, continued; Bach and Mendelssohn Preludes and Fugues; selected compositions of moderate difficulty from classical and modern schools.

Third Year—Greater works of Bach and Mendelssohn including Sonatas, Chorals and Fugues. Also Sonatas by Rheinberger and Guilmant. Pieces by standard composers.

Fourth Year—Continued study of the greater organ works by Bach, Handel, Liszt, Guilmant, Widor; concert works by standard composers. A complete organ recital is required for graduation.

Violin

MISS DVORAK

The study of the violin is systematically developed and due stress is given to technic, tonal production and the art of bowing. Pupils having the requisite ambition are given ample opportunity to acquire these elements of playing. Advancement depends considerably upon natural ability and proper tuition, but principally upon hard work.

PREPARATORY COURSE

Position, tone production on open strings, most important rudiments of musical theory in general; Hohmann's Violin School; Berold's Graded Course; duets by Gebauer and Mazas; easy solos with piano accompaniment.

COLLEGIATE COURSE

First Year—Two octave scales in all major and minor keys; Sevcik, opus 1, book 1; Schradieck's School of Violin Technic; studies by Wohlfahrt, opus 45, books 1 and 2; solos by Dancle, Sitt, Bohm, Eulenstein and Ernst.

Second Year—Three octave scales in all major and minor keys; Schradieck's School of Violin Technic; Sevcik, opus 7, books 1 and 2; Kayser's Etudes, opus 20, books 1 and 2; Mazas opus 36, book 1; solos by DeBeriot, Drdla, Ries, Dvorak, Tschaikowsky, etc.; easy concertos and sonatas by Seitz, Sitt and Gurlitt.

Third Year—Scales in thirds, sixths, octaves and tenths; Sevcik opus 1, parts 3 and 4; Casorti, *Technic of Bowing*; Mazas opus 36, book 2; etudes by Dont and Kreutzer; Solos by Wieniawski, Vieuxtemps, De Beriot, Hauser, Hubay, etc.; concertos by Viotti, De Beriot, Rode, etc.

Fourth Year—Advanced work in all subjects; graduate programs prepared; etudes by Alard and Wieniawski; Bach Sonatas; Paganini Caprices; concertos by Mendelssohn, Bruch, Vieuxtemps, Paganini, etc.

Wood-Wind and Brass Instruments

MR. JOHNSON

This department is one of the main factors in developing first class band and orchestra musicians.

Private lessons are given on the cornet, French horn, clarinet, saxophone, trombone, flute, oboe and bassoon.

Special emphasis is laid upon proper breathing and tonguing, band and orchestra routine, and other such technical requisites for the moulding of a true musician.

Harmony

ASSOCIATE PROFESSOR PETERSON

In the study of harmony, the older ideas of harmonizing a given melody or figured bass are discarded. The student is taught from the beginning to write his own melodies for harmonization, thus, while stimulating his originality and inventive ability, taking from the study of harmony that mechanical and superfluous aspect so often too apparent to the pupil, and firmly establishing its proper place in the study of music.

COLLEGIATE COURSE

First Year—Scales, Intervals, Principal and Secondary Triads; Melody writing; Chords of the seventh.

Second Year—Dominant chord of the ninth and diminished sevenths; Dominant forms of principal and secondary triads; Altered chords and Modulation.

Third Year—Counterpoint, single and double; Canon and Fugue.

Fourth Year—Compositions in various Rondo forms; Sonata or Suite; Instrumentation.

This study is generally conducted in classes of four or five, but those who desire to make more rapid advancement may secure private lessons at special rates, according to the statement upon another page.

Band, Orchestra and Conducting

PROFESSOR CHRISTENSEN

The band is a military organization under the R. O. T. C. All students receive college credits for this work.

The band has a membership of about fifty pieces and has during the past few years played some of the best works by the great masters, including "Mignon Overture" by Thomas, "Second Hungarian Rhapsody" by Liszt, "Roman Carnival Overture" by Berlioz, Ballet music from "The Queen of Sheba" by Gounod, etc.

The Ladies' Band is a big factor in the musical life of State College. This band consists of forty young women who have played for important events such as "The Home-coming of the 147th Field Artillery" at Sioux Falls and other important engagements and have received flattering comments from every portion of the state. College credits are also given for this work.

The Symphony Orchestra is open to all students of the college who are proficient upon some instrument of the orchestra. A thorough study of classic and modern compositions is afforded. The orchestra plays at all important college functions and has successfully performed Beethoven's Second Symphony, "Ruy Blas Overture" by Mendelssohn, "Fra Diavolo" by Auber, "Caprice Espagnol" by Rimsky-Korsakoff, etc. The orchestra also plays the accompaniments for all choral works given by the Choral Union.

Members of the band and orchestra who wish to learn conducting will be afforded the opportunity to become proficient in this important part of their musical education. This course is open only to students who have had the necessary musical experience. Some knowledge of harmony is also necessary.

Music, Essentials and Forms

ASSOCIATE PROFESSOR PETERSON

Principles of acoustics as applied to musical instruments; the orchestra; musical terminology; analysis of musical forms: simple song forms, arias, ballads and other vocal forms; the more simple forms of dance music, sonatina, sonata, canon and fugue.

History of Music

MISS DVORAK

This course follows the development of music and musical instruments from the earliest to the present time. This is a subject in which every musical student should be well grounded and some knowledge of it is essential in the general educational equipment of every person who is at all musically inclined. The phonograph plays an important part in this study.

Ear Training

A special class in ear training and sight reading is included in the four years course, conducted by a capable and experienced teacher. This study will be required of all music students.

Expenses of Students

The tuition for regular work throughout the year is listed in the table of fees below and depends upon the instructor, subjects studied, etc.

The terms and prices to the student of the five months' course in Agriculture will be the same as that for a quarter and a half, as given below.

Fees

The following fees will be charged a quarter for instruction:
Miss Wynn, Mr. Christensen, Mr. Peterson, Miss Dvorak—
Two half hour lessons per week\$24.00
One half hour lesson per week 15.00

Miss Carlisle, Mr. Johnson, Mrs. Milne, Mrs. Binnewies—

Two half hour lessons per week\$21.00

One half hour lesson per week 12.00

Harmony, Counterpoint and Composition in classes of four or more—

Two half hour lessons per week\$ 6.00

One half hour lesson per week 3.50

History, Theory and Ear Training in classes, free to all students taking major work.

Practice pianos may be used at the following rates a quarter:

One hour a day, \$3.00.

Two hours a day, \$5.00.

Three hours a day, \$6.50.

Four hours a day, \$8.00.

Arrangements for Organ practice will be made for students at reasonable rates.

PHARMACY

PROFESSOR SERLES; MR. HOGSTAD

Purpose

The purpose of this department is to train young men and women in the science of pharmacy. The passage of the Food and Drug Act by Congress, and similar legislation by our own state has placed very great importance on pharmaceutical education. Under the present commercial conditions it is nearly impossible for one to prepare himself to meet the requirements of these laws except by taking a thorough college course.

The demand for educated pharmacists is becoming greater every day. In fact, even at present, some of the states will not allow one to take the examination for registration unless he is a graduate of a reputable school. This department meets both the preparatory and professional requirements of the New York Educational Department with which it is registered in full. It is also a member of the American Conference of Pharmaceutical Faculties.

Medicinal Plant Garden

During the past three years a medicinal plant garden has been developed in order to acquaint the students with the principles of medicinal plant cultivation and the nature and characteristics of a large number of drug plants. The student

has the opportunity of noting the various steps employed in the cultivation, the collection, drying and preservation of a large number of drugs. Specially designed ovens are employed for the rapid drying of various drugs. The dried, preserved materials are then used in connection with the work in Pharmaceutical Botany, Pharmacognosy and Practical Pharmacy and Drug Analysis.

Below is given a description of the subjects that are offered in the department:

1a, 1b. **Pharmaceutical Latin**—2 credits Fall term; 2 credits Winter term. The subject is taught with special reference to its application to titles and prescription practice. First year. Prerequisite, freshman standing. Two recitations a week. Text: Muldoon's Pharmaceutical Latin. Mr. Hogstad.

2a, 2b, 2c. **Materia Medica**—5 credits each term. This study embraces a consideration of the medicinal properties, dosage and the description of the official, and the important non-official medicines. Special emphasis is placed on the nature, effect, and treatment of poisons. Second year. Prerequisite, Pharmacy 3, 4a, 4b, five recitations a week. Text: Wilcox's Materia Medica and Therapeutics. Mr. Hogstad.

3. **Pharmaceutical Botany**—4 credits Fall term. Designed to acquaint the student with the characteristics of the principal groups of plants, emphasis being placed on their economic value. The course also includes examination of the cell and cell contents, the plant structure and microscopical technique. A detailed study of many of the important crude drugs and drug plants with respect to the botanical and pharmacognostical characteristics. First year. Two recitations and six hours of laboratory work a week. Text: Kraemer's Applied and Economic Botany. Mr. Hogstad.

Laboratory fee \$2.00, deposit \$2.00 each term.

4a, 4b. **Pharmacognosy**—4 credits Winter term; 4 credits Spring term. This course embraces a careful study of source, characteristics and constituents of all the crude drugs of the United States Pharmacopoeia, Ninth Decennial Revision, and of the more typical and important ones of the National Formulary. Special stress is laid on the identification of the crude drugs and their respective powders. First year. Prerequisite, Pharmacy 3. Two recitations and six hours of laboratory work a week. Text: Kraemer's Scientific and Applied Pharmacognosy. Mr. Hogstad.

Laboratory fee \$2.00, deposit \$2.00 each term.

5a, 5b. **Theoretical Pharmacy**—4 credits Winter term; 3 credits Spring term. A study of the comparison of the weights and measures of the various systems, and of the theory of the application

of the methods used in pharmaceutical manufacture. First year. Four recitations a week, first term, and three recitations a week, second term. Text: Remington's Practice of Pharmacy, Volume 1, with lectures by the instructor. Mr. Serles.

6. Practical Pharmacy—2 credits Spring term. Preparation of waters, syrups, mucilages, and other galenicals prescribed by the instructor. First year. Prerequisite, Pharmacy 5a. Six hours of laboratory work a week. Text: Remington's Practice of Pharmacy, Volume 1. Mr. Serles.

Laboratory fee \$2.00, deposit \$2.00.

7. Theoretical Pharmacy—4 credits Fall term. A careful study of the official inorganic salts and their compounds, solutions, emulsions, powders, pills, ointments and plasters. Second year. Prerequisite, Pharmacy 5a, 5b, 6. Four recitations a week. Text: Remington's Practice of Pharmacy, Volume II. Mr. Serles.

Laboratory fee \$5.00, deposit \$2.00.

8. Practical Pharmacy—3 credits Spring term. Application of principles involved in Course 7, which it accompanies. Second year. Prerequisite, Pharmacy 6. Nine hours of laboratory work a week. Text: Remington's Practice of Pharmacy, Volume II. Mr. Serles.

Laboratory fee \$5.00, deposit \$2.00.

9a, 9b. Dispensing—4 credits each, Winter term. This course is so designed as to acquaint the student with the actual work that comes before him in the store, and to give him the practical side of the work, previously given in lectures on incompatibility and prescription filling. Second year. Prerequisite, all courses of theoretical and practical pharmacy. Four recitations and twelve hours of laboratory work a week. Text: Scoville's The Art of Compounding. Mr. Serles.

Laboratory fee \$5.00, deposit \$2.00.

10. Prescription Practice—4 credits Spring term. Special attention will be given to the National and State Laws governing the importation, commercial disposition and the medico-legal aspects of prescription practice. Adequate practice is also devoted to the use of the more important National Formulary and Proprietary preparations. Second year. Prerequisite, Pharmacy 9a, 9b. Two recitations and two hours of laboratory work a week. Texts and references: Scoville's Art of Compounding; Ruddiman's Incompatibles in Prescriptions; Remington's Practice of Pharmacy; Holland's Toxicology; Sollman's Manual of Pharmacology; Potter's Therapeutics and Materia Medica; National and State Laws. Mr. Serles.

Laboratory fee \$5.00, deposit \$2.00.

11a, 11b. Drug Assaying—4 credits Winter term; 4 credits Spring term. Second year. Prerequisite, Chemistry 1a, 1b, and 1c. One recitation and nine hours of laboratory work a week. Mr. Serles.

Laboratory fee \$2.00, deposit \$2.00 each term.

12. Urine Analysis—4 credits Fall term. Each student is required to make a careful, and systematic chemical and microscopic study of the urine with sufficient outside reading and lecture work to enable the student in his interpretation of the results which he may find. Third year. Prerequisite, two years work in pharmacy. Two recitations and six hours of laboratory work a week. Texts and references: Holland's Medical Toxicology; Long and Abderhalden's Physiological Chemistry, and lecture notes. Mr. Serles.

Laboratory fee \$2.00, deposit \$2.00.

13a, 13b. Toxicology—4 credits Winter term; 4 credits Spring term. A systematic physiological and chemical study of the more common poisons, together with the nature, effect and antidotes for same. Lectures will also be given concerning the medico-legal aspect. Third year. Prerequisite, first and second year Pharmacy courses. Two recitations and six hours of laboratory work a week. Text and references: Autenrieth's Detection of Poisons. Holland's Toxicology; Sollman's Manual of Pharmacology; Howell's Physiology; Potter's Therapeutics and Materia Medica; Journal of Experimental Medicine. Mr. Serles.

Laboratory fee \$2.00, deposit \$2.00 each term.

PHYSICS

PROFESSOR MATHEWS; ASSOCIATE PROFESSOR HOY

From the fact that physics is a foundation science and that a knowledge of its laws is necessary to every student seeking a scientific training the department has been fitted with rooms, appliances and facilities for instruction equal to those found in the leading educational institutions of the northwest. The following courses are offered:

1a. General Physics—4 credits Fall term. Mechanics of solids and fluids; Sound and heat. Prerequisite, High School Physics and trigonometry. Three recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

1b. General Physics—4 credits Winter term. Heat continued from fall term, electricity and magnetism. Prerequisite, Physics 1a. Three recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

1c. General Physics—4 credits Spring term. Electricity and magnetism continued from winter term, and light studied. Prerequisite, Physics 1b. Three recitations and three hours laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

2a, 2b, 2c. College Physics—3 credits each term. General topics in physics discussed with special emphasis upon subjects of practical interest; offered to students in agricultural courses. Prerequisite, High School Physics 1. Two recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00 each term.

3. Household Physics—4 credits Spring term. A general review of physics. Emphasis is laid upon the practical application of physical principles in the home. Four recitations a week. Mr. Hoy.

4. Primary and Secondary Batteries—3 credits Fall term. Strong and weak points, care, construction and characteristics of primary and secondary batteries. Prerequisite, Elementary Physics and Plane Trigonometry. Two recitations and three hours of laboratory work a week. Mr. Mathews.

5. Teaching High School Physics—2 credits Spring term. Methods of presenting subject matter; class and laboratory outlines, selection of experiments, apparatus and equipment. Prerequisite, High School Physics. Two recitations a week. Mr. Mathews.

6. Advanced Physics—5 credits Fall term. Mechanics of solids, liquids and gases and sound. Prerequisite, Physics 1a and Calculus. Four recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

7. Heat—5 credits Winter term. Prerequisite, Physics 1b and calculus. Four recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

8. Light—5 credits Spring term. Prerequisite, Physics 1c and Calculus. Four recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

PHYSICAL EDUCATION

PROFESSOR WEST; ASSISTANT PROFESSOR HJERTAAS

The importance of physical training is fully recognized by the College and all students are encouraged to take part in some form of athletic sports. Young women below the junior year are required to take physical education regularly.

The student association furnishes suits to men in the three major sports, football, basketball, and track.

The gridiron, the tennis courts, and the three basketball courts offer a variety of sports for the men in both the col-

lege and school of agriculture. In the winter each of the various classes has a basketball team. Those who do not care for this sport receive instruction on the gymnasium apparatus, in boxing and in wrestling. In the spring outdoor sports again hold sway. The college track team offers opportunity for ambitious runners and jumpers. Tennis and baseball are also encouraged.

FOR WOMEN

1a, 1b, 1c. **Physical Education**—1 credit each term.

2a, 2b, 2c. **Physical Education**—1 credit each term. This course of two year's work which is required of all women below junior standing, consist of Swedish gymnastics including light hand apparatus and corrective stall bar exercises, drills, jumping, buck and horse vaulting, games, folk dancing, theory and development of rhythm as a translation of musical construction and note values into bodily movement. Interclass tournaments are played in basket, volley, indoor base ball and tennis. Two hours a week. Miss Hjertaas.

Students taking this work are required to furnish the following articles of dress: black bloomers, stockings, tie, leather gymnasium shoes and white middy with short sleeves in the uniform suit.

POULTRY HUSBANDRY

PROFESSOR STEVENSON

The following courses are offered in this department, those given in the School of Agriculture not being indicated.

1. **Poultry Culture**—3 credits Spring term. A study of the rise of the poultry industry and its importance; the origin of domestic poultry; breeds and varieties of domestic fowl; how to choose a farm for poultry; selection of stock; modern poultry house construction; equipment for the poultry house; yarding and free range; colony and community systems; principles of poultry feeding; various foods for poultry; preparation of rations; management of laying and breeding stock; culling the layers; candling, grading and packing eggs and birds; marketing products. Two lectures and three hours of laboratory work a week.

1. **General Principles of Poultry Culture**—3 credits Spring term. A study of the rise of the poultry industry and its importance; the origin of domestic poultry; breeds and varieties of domestic fowl; how to choose a farm for poultry; selection of stock; modern poultry house construction; equipment for the poultry house; yarding and free range; colony and community systems; principles of poultry feeding; various foods for poultry; preparation of rations; management of

laying and breeding stock; culling the layers; candling, grading and packing eggs, judging eggs and birds; marketing products. Two lectures and three hours of laboratory work a week.

3. **Poultry Breeding**—3 credits Spring term. The principles and practice of poultry breeding; the management of breeding stock; anatomy and physiology of fowls; formation of eggs and chickens, study of different makes of incubators and brooders; natural and artificial incubation and brooding; care of growing stock; capons and caponizing; marketing of hatching eggs, day old chicks and breeding stock. Practice in operation of incubators and brooders. Two lectures and three hours of laboratory work a week.

4. **Poultry Raising**—3 credits Winter term. An intensive study of turkeys, ducks, geese, squabs, and guineas, pheasants, etc., including the breeds and varieties, housing principles, feeding, breeding and marketing. Three lectures a week.

VETERINARY MEDICINE

PROFESSOR LIPP

The development of our complex systems of livestock farming and transportation has increased the rapidity with which animal diseases spread over wide areas. Through the necessity of protecting their own interests, farmers and stockmen are today paying more attention to all that relates to animal disease prevention than ever before. The following veterinary courses were planned to meet this demand. No attempt is made to teach diagnosis or treatment, since these arts belong to the practicing veterinarians. But every effort is made to teach the principles underlying animal disease prevention, and the methods for their practicable application.

1. **Veterinary Physiology**—3 credits Spring term. Physiology of digestion, assimilation, the production of waste and its excretion in the common farm animals. Prerequisite, Zoology 1a, 2a. Three recitations a week.

2. **Veterinary Pathology**—3 credits Winter term. Common disease processes as they occur in farm animals. Three recitations a week.

3. **Veterinary Hygiene**—3 credits Fall term. Hygiene and sanitation in the stable and feed lot, and their relation to animal health and disease prevention. Three recitations a week.

4. **Veterinary Anatomy**—2 credits Spring term. The anatomy of the front limb, the digestive and reproductive organs of horses and cattle. Three recitations a week.

5. **Non-contagious Diseases**—3 credits Spring term. The causes and methods of preventing the most prevalent non-contagious diseases of farm animals. Prerequisite, Veterinary 2. Three hours a week.

6. **Contagious Diseases**—4 credits Winter term. The causes and methods of preventing the most prevalent contagious and infectious diseases of farm animals. Prerequisite, Bacteriology. Four recitations a week.

VOCATIONAL EDUCATION

PROFESSOR BRADY; PROFESSOR CARLSON; ASSISTANT
PROFESSOR WISEMAN

During the last few years the demand for professionally trained teachers of agriculture, principals and superintendents of agricultural and industrial high schools, teachers of home economics (domestic science and art), related science and industrial positions in general has far exceeded the supply. In February, 1917, Congress, realizing the ever increasing demands for technically trained men and women, passed the Smith-Hughes vocational law which provides certain appropriations and standards for teacher training in the technical subjects.

Students wishing to receive the Bachelor of Science degree in any of the vocational teacher training courses under the Smith-Hughes law and the accompanying vocational teaching certificate in agriculture or home economics can do so by completing the respective four years course for graduation as outlined in the schemes of study for Teacher Training. (See schemes of study.)

Those desirous of obtaining the regular state certificate for South Dakota should elect the equivalent of fifteen semester hours work in the department of education (not omitting educational psychology, principles of teaching, history of education, observation and practice teaching).

The courses in Education are planned to give a clear grasp of the organization and administration of Public Education, with special emphasis on the present vocational theory and vocational practice in educational procedure.

The purpose is to make all courses concrete and practical.

1. **Educational Psychology**—4 credits Fall term. A systematic course treating of the fundamental laws of learning in animals and man, the effects of practice, the rate and limits and transfer of improvement, conditions for economical learning, measurements of progress in school subjects, mental fatigue and mental hygiene. Lectures, recitations, readings and experimentations. Four class periods a week. Mr. Brady.

2. **Principles of Vocational Teaching**—4 credits Spring term. An application of the principles of psychology to the technique of vocational instruction; observations of these applications in the practice school; discussion of various types of lessons, criticism of stenographic reports of recitations, motivation and project teaching; planning lesson syllabi, examinations, etc. Lectures, readings, recitations, observations and reports. Four class periods a week. Mr. Brady.

3. **Vocational Agricultural Education**—3 credits Winter term. Organization and administration, courses of study, equipment, qualifications of supervisors, directors and teachers, types of agricultural schools, special classes, state and federal requirements, plans for training teachers, etc. Lectures, required readings, discussions, special reports and observations. Three recitations a week. Mr. Wiseman.

4. **Vocational Educational History**—4 credits Winter term. A consistent survey of those periods in the history of educational progress as will serve in the interpretation and solution of our present vocational problems. The increasing demands for specialization, the evolution of the modern high schools with their vocational departments, guild systems, apprenticeship labor, state and federal control, public system of education and training, vocational teachers, etc., will receive special emphasis. Lectures, readings, recitations and reports. Four class periods a week. Mr. Brady.

5. **School Administration**—4 credits Winter term. A thorough study of the organization and administration of Public School Systems in U. S. will be made with measurement as the modern scientific instrument of supervision and administration. Special attention will be given to class organization, retardation, acceleration and elimination, grading and promotion, special classes, home work, compulsory education, extension, etc. Lectures, discussions, readings and reports. Four class periods a week. Mr. Brady.

6. **Special Methods in Teaching Vocational Agriculture**—4 credits Fall term. Deals particularly with teaching vocational agriculture in Smith-Hughes schools, aims, course of study, selection and ordering of subject matter, methods in field, laboratory and class room. Special attention given to the home project as a type of supervised practice work. Lectures, required readings, discussions, reports, ob-

servations and laboratory work. Three recitations and two hours laboratory work a week. Mr. Wiseman.

7a, 7b. **Theory and Practice in Teaching Home Economics**—3 credits Fall term, 3 credits Winter term. Prerequisites are Psychology, History of Education and Principles of Teaching. Study of the standards and special methods, types of schools, courses of study, lesson plans, observation reports, school organization and management in relation to Home Economics teaching. Discussions, observations, readings and demonstrations. Three class periods a week. Miss Carlson.

9. **Practice Teaching in Home Economics**—3 credits any term. Required of students taking Teachers Training Course in Home Economics. This course runs parallel to courses 7a and 7b. Students are given the responsibility of taking part or full charge of classes in sewing and cooking in the public schools and in the School of Agriculture. Three teaching periods a week. Miss Carlson.

10. **Practice Teaching in Vocational Agriculture**—2 to 5 credits any term. Open to seniors who have had twelve hours or equivalent in education. Daily lesson plans carefully inspected and followed by teaching. Practice teaching in secondary School of Agriculture and in City High School of Brookings. This school has a bonafide Smith-Hughes Agricultural Department. Careful supervision. Two to five hours teaching a week with individual conferences. Mr. Wiseman.

11. **Vocational Educational Sociology**—4 credits Spring term. A study is made of modern social demands for vocational reorganization of administration; methods of instruction, courses of study, etc. Problems of industrial hygiene, vocational ethics, vocational guidance and placement and tests for vocational selection are considered. Several concrete studies of vocational surveys are made. Lectures, discussions, problems, readings, and reports. Four class periods a week. Professor Brady.

12. **Rural Education**—4 credits Spring term. Rural life conditions, need for rural life organization, fundamental principles involved, noteworthy examples of new types of rural school organization, new curricula, the new teacher, new buildings, etc. Lectures, readings, reports and observations. Four class periods a week. Mr. Wiseman.

13. **Vocational Secondary Education**—4 credits Fall term. Essential facts of adolescence, facts, causes and remedies for elimination and retardation, types and definitions of vocational schools, vocational legislation, correlation of vocational with related work, special classes, measuring vocational products, etc. Lectures, discussions, readings and reports. Four class periods a week. Mr. Brady.

14. **Project Work**—3-5 credits any term. For Senior students. A problem study of the project for students in agricultural educa-

tion. A thorough study is made of the project as a form of supervised practice work in vocational agriculture. An actual project is chosen by the student, plans for its working are projected, a careful study is made of the project, the project is carried out, records are kept and reports made. Readings, reports and actual farm practice in working out the project. Individual work. Mr. Wiseman.

15. **Educational Measurement**—4 credits any term. Open to advanced students in education. A study of mental and physical tests dealing more especially with the simpler processes. Lectures, readings, experimentation. Professor Brady.

ZOOLOGY AND RURAL HYGIENE

PROFESSOR MILLER; *MR. VALENTINE; MR. HOOD

Students of Agriculture, Domestic and General Science must have a fundamental knowledge of animal structure, physiology and the principles of growth and development. It is equally true that such classes of students should have a fundamental knowledge of the principles of Bacteriology and Sanitation. It is the aim of the department to give this knowledge. Besides this the department offers training to those who wish to specialize. For such students excellent training is offered in methods of research and technique.

Students who contemplate the study of Veterinary or Human Medicine will find it much to their advantage to elect advanced work in the department. For some of the pure medical sciences full credit is usually given and the student is privileged to elect more advanced work in the professional school.

The department is equipped to offer biological work as it should be given. A large number of microscopes, microtomes, ovens, sterilizers, incubators, a projecting apparatus for microscopical and lantern slides, glassware, reagents, type specimens in formaldehyde, skeletons, excellent models, and a well chosen library of some five hundred volumes, besides files of a number of the biological magazines, equip the department with apparatus and literature for thorough scientific work.

*Resigned teaching work January 1, 1920, at which time Mr. Hood took his place.

Advanced work may be elected in Bacteriology or Vertebrate Histology by those who are qualified.

1a, 1b. **General Zoology**—3 credits Fall term, 3 credits Winter term. The principles of General Zoology illustrated by laboratory work consisting of dissections and experiments. Prerequisite, sophomore standing. One recitation and six hours of laboratory work a week, fall term; two recitations and three hours of laboratory work a week, winter term. Mr. Miller.

Laboratory fee, \$2.00 each term.

2. **Human Physiology**—3 credits Spring term. Principles of human physiology, particularly processes of digestion and excretion. Prerequisite, Zoology, 1a, 1b. Two recitations and three hours of laboratory demonstration work a week. Mr. Miller.

Laboratory fee, \$2.00 each term.

3a, 3b. **Pharmacy Physiology**—4 credits Fall term, 3 credits Winter term. The anatomy of the mammal, with comparisons with the human together with human physiology. The cat is dissected and excellent anatomical models are used for comparison. Text to be announced. Two recitations and six hours of laboratory work a week Fall term, one recitation and two laboratory periods, Winter term. Mr. Miller.

Laboratory fee, \$2.00 each term.

4. **Bacteriology**—4 credits Winter or Spring term. A course in General Bacteriology, including preparation of media and technique in the bacteriology laboratory. Special reference is made to the public health of the subject. Prerequisite, sophomore standing. Two recitations and two three-hour laboratory periods a week. Mr. Miller.

Laboratory fee, \$3.00.

5a, 5b. **Vertebrate Histology**—4 credits Fall term, 4 credits Winter term. A course in microtechnical methods, which includes the preparation of a large number of microscopical slides of the vertebrate tissues. The latter part of course will include a study of organology from the preparations made by the student. This course is of value for those who are expecting to teach science in the high schools and those expecting to enter medical college. Prerequisite, four three-hour laboratory periods a week. Mr. Miller.

Laboratory fee, \$2.00 per term.

6. **Vertebrate Embryology**—3 credits Spring term. The study of the principles of development, including cleavage, formation of germ layers, and differentiation of the organs of the vertebrate body. Chick and pig embryos are used for study. Two lectures and two three-hour laboratory periods a week. Text: Prentiss and Avery. Mr. Miller.

Laboratory fee, \$2.00.

7. **Hygiene**— $\frac{1}{2}$ credit Fall term. Personal hygiene. Required of men of the freshman class. One lecture a week. Mr. Miller.

SPECIAL AND SECONDARY COURSES

In addition to the courses of study leading to degrees the college offers the special and secondary courses mentioned below. These courses are described on the following pages, or in other parts of the catalog indicated:

The Preparatory Course.

The School of Agriculture.

The Tractor and Auto-Mechanics Course.

The Three Months Creamery Course. (See the Dairy Husbandry Department.)

The One Year Vocational Course in the Commercial Department. (See the Department of Commercial Science.)

The Farmers' and Home-Makers' Course.

Special courses in Music. (See the Department of Music.)

Special work in Art. (See the Department of Art.)

Special work in Printing. (See the Department of Printing.)

The Six Weeks Summer School. (See the Summer School.)

PREPARATORY DEPARTMENT

PROFESSOR FORSEE

September 20, 1920, to June 16, 1921

For the benefit of students who do not have high school advantages a preparatory department is maintained. Students who enter the department must be at least fourteen years old and have completed the eighth grade of the public school work. The course extends over four years and contains certain required subjects that are considered necessary to a liberal education. The remaining work may be chosen from a large list of elective subjects. The student who pursues the course may thus secure a good preparation for entering upon more advanced work or a training for practical life.

For information concerning tuition and other expenses, look under "General Information" in the fore part of catalog.

The course conforms to the admission requirements as far as the conditions of the College permit. Students will be admitted to the college courses upon the completion of the required subjects and an additional amount of work chosen from the elective subjects to make fifteen units, a unit being five hours a week throughout the year. This requires about three hours of elective work a week in addition to the required subjects during the four years. In addition to the requirements outlined below, all students will be required to attend and take part in literary society work, for which they will receive reasonable credit.

For convenience, the work is arranged in semesters to correspond with the high school courses of study. Students will register, however, at the beginning of each term, as other students do.

The following work is offered:

English

1, 2. **Composition**—5 credits each semester. Five recitations a week.

3, 4. **Composition and Rhetoric**—5 credits each semester. Five recitations a week.

5, 6. **American Literature**—5 credits each semester. Five recitations a week.

7, 8. **English Literature**—5 credits each semester. Five recitations a week.

9, 10. **Word Analysis**—2 credits each semester. Two recitations a week.

Mathematics

1. **Arithmetic**—5 credits first semester. Five recitations a week.

2, 3. **Algebra**—5 credits each semester. Five recitations a week.

2. **Algebra**—5 credits second semester. For those who complete arithmetic first semester. Five recitations a week.

3. **Algebra**—5 credits first semester. Continuation of 2. Five recitations a week.

4. **Algebra**—5 credits second semester. Continuation of 3. Five recitations a week.

5, 6. **Plane Geometry**—5 credits each semester. Four recitations a week. Prerequisite, two semesters of algebra.

Science

1. **Physiography**—5 credits first semester. Five recitations a week.

2, 3. **Elementary Biology**—5 credits each semester. Three recitations and four hours of laboratory work a week.

4, 5. **Elementary Physics**—5 credits each semester. Three recitations and four hours of laboratory work a week. Prerequisite, one year of algebra and one year of geometry.

Drawing

1, 2. **Freehand Drawing**—3 credits each semester. Six hours of laboratory work a week.

3, 4. **Mechanical Drawing**—2 to 5 credits each semester. Two hours of laboratory work a week for each credit.

Domestic Science

1, 2. **Cooking**—3 credits first semester, 2 credits second semester. Six hours of laboratory work a week, first semester; four hours a week, second semester.

3, 4. **Sewing**—2 credits first semester, 3 credits second semester. Four hours a week, first semester; six hours a week, second semester.

Commercial

1, 2. **Bookkeeping**—3 credits each semester. Six hours of laboratory work a week.

3, 4. **Typewriting**—2 credits each semester. Five laboratory periods a week.

5. **Business Methods**—3 credits first semester. Three recitations a week.

6. **Industrial History**—3 credits second semester. Three recitations a week.

Modern Language

1, 2. **French**—5 credits each semester. Five recitations a week.

3, 4. **French**—5 credits each semester. Five recitations a week.

5, 6. **Spanish**—5 credits each semester. Five recitations a week.

7, 8. **Spanish**—5 credits each semester. Five recitations a week.

History

1. **Civics**—5 credits second semester. Five recitations a week.

2. **Greek History**—5 credits first semester. Three recitations a week.

3. **Roman History**—5 credits second semester. Three recitations a week.

4, 5. **English History**—5 credits each semester. Three recitations a week.

Manual Training

1, 2. **Carpentry**—2 to 5 credits either semester. Two hours of laboratory work a week for each credit.

3, 4. **Forging**—2 to 5 credits either semester. Two hours of laboratory work a week for each credit.

PREPARATORY COURSE

First Year

	1st Sem.	2nd Sem.
English Composition, English 1, 2	5	5
Arithmetic, Mathematics 1	5	
Algebra, Mathematics 2		5
Physiography, Science 1	5	
Civics, History 1		5
Elective	5	5
	<hr/>	<hr/>
	20	20

Second Year

Composition and Rhetoric, English 3, 4	5	5
Algebra, Mathematics 3, 4	5	5
Greek and Roman History, History 2, 3	5	5
Elective	5	5
	<hr/>	<hr/>
	20	20

Third Year

American Literature, English 5, 6	5	5
Plane Geometry, Mathematics 5, 6	5	5
Elementary Biology, Science 2, 3	5	5
Elective	5	5
	<hr/>	<hr/>
	20	20

Fourth Year

English Literature, English 7, 8	5	5
Elementary Physics, Science 4, 5	5	5
English History, History 4, 5	5	5
Elective	5	5
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	20	20

PREPARATORY ELECTIVES

Freehand Drawing, Drawing 1, 2	3	3
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Mechanical Drawing, Drawing 3, 4	2to5	2to5
Cooking, Domestic Science 1, 2	3	2
Sewing, Domestic Science 3, 4	2	2
Carpentry, Manual Arts 1, 2	3	3
Forging, Manual Arts 3, 4	2	2
Typewriting, Commercial 3, 4	2	2
Bookkeeping, Commercial 1, 2	3	3
Business Methods, Commercial 5	3	
Industrial History, Commercial 6		3
French 1st year, Modern Lang. 1, 2	5	5
French 2nd year, Modern Lang. 3, 4	5	5
Spanish 1st year, Modern Lang. 5, 6	5	5
Spanish 2nd year, Modern Lang. 7, 8	5	5
Word Analysis, English 9, 10	2	2

SCHOOL OF AGRICULTURE

November 1, 1920 to March 24, 1921

PROFESSOR VITUM

The School of Agriculture has for its specific purpose the training of young people for the life and work of the farm and home, for the social life of the rural community and for American citizenship.

The farmers' boys and girls are often needed on the farm and in the homes to help the parents during the busy season of the year. They can usually be spared from such work during the winter season, and may well spend this time in study which will prepare them for practical, profitable farming and successful home management.

While the subjects of study consist primarily of those that relate to farming and household economy, they include also such subjects as are usually given in a regular high school course. For example, English, mathematics, history, civics, chemistry, physics and biology. The technical topics include studies in soil, plants and crops, domestic animals, feeds and feeding, cooking and sewing, laundering, farm and home management, records and accounts, carpentry and blacksmithing. Text books are used when these aids best answer the purpose. Lectures are given in the subjects which can be most efficiently taught in this way. Demonstrations are

given in the class rooms, laboratories, kitchen and sewing-rooms, barns, greenhouses, orchards and fields.

The School of Agriculture welcomes earnest and worthy young men and women from all parts of the state who have passed the eighth grade in the public schools and are willing to work in such a course of mental and manual training as will prepare them for life's labors, on the farms and in the homes of South Dakota.

The tuition is six dollars for the year, with a small fee for each laboratory in which work is taken.

Those interested in the School of Agriculture should write to the college for special bulletin, addressing the Registrar, State College, Brookings, South Dakota.

Courses of Study

Following are the schedules of the courses of study. The academic studies are practically the same for men and women.

OUTLINE OF THE FOUR-YEAR COURSE FOR YOUNG MEN

The academic studies are practically the same for men and women. The courses are differentiated only in such points as are related to their specific spheres in life's work.

First Year

	Recitations per week	Hours Lab. per week	Credit
English I	4		4
Business Arithmetic or Algebra	4		4
Drill and Physical Training		3	1
Animal Husbandry	2	4	4
Farm Crops (cereals)	2	4	4
Carpentry		6	3
Poultry	2		2
Hygiene	1		1

Second Year

English II	4		4
Plant Life or Algebra I or Algebra II			
Algebra	4		4
Plant Life	3	4	5
Drill and Physical Training		3	1
Dairying	2	2	3
Farm Crops (Forage Crops and Seeds)	3		3
Livestock Production and Management	2	2	3

Blacksmithing		4	2
Farm Accounts	1		1
Cement Construction	1	2	2

Third Year

Civics	3		3
Chemistry		6	3
Drill and Physical Training		3	1
Soils	2	4	4
Feeds and Feeding	3		3
Horticulture	1	2	2
Entomology	1	2	2
Elective			4

Fourth Year

English IV	4		4
American History	3		3
Drill and Physical Training		3	1
Rural Organization	3		3
Farm Management	3		3
Veterinary	2		2
Physics	3		3
Elective			4

Electives for Third and Fourth Years

Advanced Blacksmithing		4	2
Farm Machinery and Motors	1	2	2
Advanced Stock Judging		4	2
Algebra	4		4
Geometry	4		4
Soils (Elective in fourth year)	2	4	4

**OUTLINE OF THE FOUR-YEAR COURSE
FOR YOUNG WOMEN**

First Year

		Recitations per week	Hours Lab. per week	Credit
Hygiene	1			1
Poultry	2			2
English I	4			4
Arithmetic or Algebra	4			4
Freehand Drawing			4	2
Elementary Clothing			6	3
Food Study			6	3
Physiology	3			3
Physical Training			2	1

Second Year

English II	4		4
Algebra or Plant Life—			
Algebra	4		4
Plant Life	3	4	5
Craft		4	2
Elementary Dressmaking		6	3
Food Preparation and Service		6	3
The House	2	2	3
Dairying	2	2	3
Physical Training		2	1

Third Year

Craft (2) and Home Gardening (2)			
or Geometry	4		4
Civics	3		3
Elementary Chemistry		6	3
Dressmaking		6	3
Textiles and Laundering		4	2
Elementary Dietetics and Table Service		6	3
Physical Training		2	1
Art Needle Work		4	2

Fourth Year

English IV	4		4
American History	3		3
Elementary Physics	3		3
Household Problems		6	3
Clothing Problems		6	3
Millinery		2	1
Physical Training		2	1
Rural Organization	3		3

TRACTOR AND AUTO-MECHANICS COURSE

PROFESSOR BONNELL

September 20, 1920 to June 16, 1921.

The purpose of this course is to give a complete training in the operation, care and repair of gas engines, automobiles and tractors, fitting students for tractor road work, tractor repair work and garage work.

This course is entirely separate from the School of Agriculture course.

Requirements for Entrance

Applicants for entrance to the course should be at least sixteen years of age and have a good reading and writing knowledge of the English language.

Written Application for Entrance Necessary

Because of limited facilities, the college will not accept more than ninety men for this course. However a large number of additional men can be accommodated in the special two weeks tractor schools mentioned below. Those who wish to enter should not come to the college before making written application and ascertaining beforehand whether or not they can be accommodated. For special application blank write to the Registrar, State College, Brookings, South Dakota.

As a prompt beginning at the opening of each term is necessary to the success of the work, no one will be admitted after September 28 in the fall term and after January 10 at the beginning of the winter term.

Expenses

The tuition fee is \$4 a term, or \$12 for the year. There is also a small charge for shop fees to cover the cost of special materials used in the work and each student is expected to purchase a small roll of tools costing about \$7.

Good rooms and board may be obtained at private houses. The college maintains a dining hall in connection with the women's dormitories, and furnishes board at a very reasonable rate. During the year just closing, the cost of board in the hall has been about \$5.00 a week. It is impossible to tell just what it will be next year, but the aim is to give good board at the lowest possible cost.

Equipment

An entire building on the campus is devoted to this work. It is completely equipped with modern tractors, automobiles, and engines. The laboratories and shops are fitted up with tools and machinery of the latest design. The student is expected to master the use of all this equipment by actual practice under the guidance of an instructor, and at the same time

to learn the theory and the best methods for all phases of the work.

Shop Work

In the auto repair shop, machines will be completely overhauled and put in running condition. The shops are supplied with several cars and a great many parts for use in demonstration and practice. Cylinders will be reground, valves ground, bearings scraped and fitted, cooling systems overhauled and carburetors and carburetion thoroly studied. Lubrication and a study of oils will receive especial attention.

In the blacksmith shop all the necessary methods of procedure for the practical benefit of the student will be taught. The fire, heats, material and methods of making tools and making repairs will be demonstrated.

Oxy-acetylene welding will be taught so as to make it possible for the student to make complete repair jobs. The theory and underlying principles of acetylene welding will be taught by lecture, demonstration and by each student being required to spend a large number of hours at this work. All kinds of material will be welded and in all kinds of form.

In the study of ignition, all kinds of apparatus are used for demonstrations in the class room, and in the laboratory each student is required to overhaul and test magnetos. Ignition systems are wired, magnetos installed and properly timed under the direction of the instructor.

An important part of the work is the discussion of engine troubles and the ways of detecting and meeting them.

For special bulletin and application blank write to the Registrar, State College, Brookings, South Dakota.

Special Two Weeks Tractor Schools

During the late winter and spring there will be conducted special tractor schools of two weeks each in which the different kinds of tractors will be studied. These courses will be entirely separate from the regular auto-tractor course, altho the students of the auto-tractor course will have the advantage of these demonstrations without extra charge. A tuition fee of \$2.00 will be charged for attendance at a two weeks course. Young men wishing to spend two weeks in

the study of two tractors should write to the college for dates, and specify the kinds of tractors in which they are interested. Address letters of inquiry to the Registrar, State College, Brookings, South Dakota.

FARMERS AND HOME MAKERS WEEK

December 27, 1920 to January 1, 1921

The farmers and home-makers of the State are cordially invited to visit the College on the above dates and attend a course of lectures and demonstrations in connection with all phases of the work and life of the farm and the home. Instruction will be given by members of the regular college staff on live stock, poultry, dairying, farm crops and soils, fruit production, landscape gardening, food and clothing, engineering problems of the farm and other practical topics.

Special lecturers will be secured to discuss home and community problems of unusual interest.

It is the desire of the college to make the course inspirational as well as instructional in character, by giving the farm people of the state the opportunity not only to become acquainted with the College and the most modern methods in agriculture, but also to meet each other in good fellowship for the exchange of ideas of mutual interest.

No tuition fee will be charged. Good rooms may be obtained in the city at reasonable rates, and excellent board will be furnished in the college dining hall virtually at cost.

For further information write for special bulletin to the Registrar, State College, Brookings, South Dakota.

COLLEGE ALUMNI

ALUMNI ASSOCIATION

A. S. Harding, '92	.....President
Earl R. Serles, '15	.....First Vice President
Clarence Shanley, '13	.....Second Vice President
Mrs. Helen White (Browne), '19	.....Third Vice President
H. B. Mathews, '92	.....Secretary and Treasurer
Geo. Phillips, '09	.....Assistant Secretary

The numerals appearing after a name indicates the year the degree of Bachelor of Science (B. S.) was received. Other degrees are followed by the year the degree was received. Master of science is indicated by the the abbreviation (M. S.), Electrical Engineer by (E. E.), Mechanical Engineer by (M. E.), Civil Engineer by (C. E.), Pharmaceutical Chemist by (Ph. C.) and Graduate in Pharmacy by (Ph. G.).

- Abbott, Cleveland, '16, Instructor in Dairying, Industrial and Educational Inst., Topeka, Kansas
- Abbott, Guy, Ph. G. '09, Druggist, Yale
- Abbott, Walter, Ph. G. '15, Druggist, Tyndall
- Ahlers, Naomi, '18, Instructor H. Ec., Andover
- Ainsworth, Cephas, '97, Real Estate, 406 Idaho St., Lewiston, Mont.
- Ainsworth, Ernest, '17, Dairyman, Blue Valley Creamery Co., 211 N. Kleine St., Springfield, Illinois.
- Ainsworth, H. H., '98, Fruit Grower, R. F. D. No. 17, Mountain View, California
- Ainsworth, Flora (Hazle), '98, 208 6th Ave. S. E., Aberdeen
- Aldrich, Dorothy, '19, Instructor in Business Branches, Mondovi, Wis.
- Aldrich, Irwin D., '91, Editor and Farmer, Big Stone City
- Aldrich, John M., '88, M. S. '91, Associate Curator of Insects, National Museum, and Secretary National Entomological Society, Washington, D. C.
- Aldrich, Malcolm, '06, Prin. Calhoun School, 3220 2nd Ave. S., Minneapolis, Minn.
- Allen, Hart M., '00, Druggist, Hotel Trow, Sacramento, Calif.
- Allen, Wm. C., '90, Died in Chicago, Ill.
- Allison, Arthur, '16, Electrical Engr., G. E. Co., Schenectady, N. Y.
- Allison, Harold, Ph G. '06, Physician, Amity, Ore.
- Allison, Wm. F., '95, Ph. G. '02, Prof. of Civil Eng., U of Wash., Seattle, Wash.
- Almond, Fred C., '03, Died at Clear Lake, S. D., March 12, 1909
- Alton, B. H., '08, M. S. '10, Physician, 72 Pearl St., Worcester, Mass.
- Anderson, A. Edward, Ph. G. '16, Druggist, Brookings

- Anderson, Ernest, Ph. G. '04, Druggist, Aberdeen
Anderson, Eldon, '17, Co. Agr. Agent, Ft. Pierre
Anderson, Clark M., '00, Died at Brookings, March 6, 1902
Anderson, Georgia, '16, Instr. H. Ec., Harlowtown, Mont.
Anderson, Leon, '17, Farmer, Rapid City
Armstrong, Inez, '14, Instructor H. Ec., State College, Pullman, Wash.
Armstrong, Lillian (Kirlin), '14, Pullman, Wash.
Atkinson, Fay, '10, Farmer, Coal Harbor, N. D.
Atkinson, Geo. W., '97, Map Publisher, Gollier, Saskatchewan, Canada
Atkinson, Jesse C., '96, Farmer, Allegan, Mich.
Atkinson, Ray, '19, Instructor Manual Training, Huron
Atkinson, Walter, '97, Civil Engineer, 623 W. 67th St., Chicago, Illinois
Atwood, Geo. B., '12, Veterinarian, Arlington
Ausman, Leslie, '14, County Agr. Agent, Watertown
Austin, Ethel, '16, Instructor H. Ec., State College of Industry, Benton, Texas
Austin, Steven, '92, Mechanical Engr., Harrison and 42nd Sts., Chicago, Ill.
Avery, Blanche (Johnston), '16, Alexandria
Bacon, Eva (Paulson), '09, Castlewood
Bacon, Harry, Ph. G. '12, Druggist, Edgemont
Bacon, Lula Mae, '19, Instructor H. Ec., Bird Island, Minn.
Bagley, Susie, '01, Teacher, Zion City, Ill.
Balmat, J. H., '11, Civil Engr., Yankton
Baldwin, Corwin, Ph. G. '00, Druggist and Member State Board of Pharmacy, Rapid City
Barber, Floyd, '10, Civil Engr., Alpena
Barrett, Wylie, '06, Died at Plankinton, S. D., February, 1920.
Barton, Alice (White), '98, 413 E. Walnut St., Santa Ana, Calif.
Basgen, Fred H., '13, Maintenance Engr., Winnipeg and Pacific Ry., 410½ E. 4th St., West Duluth, Minn.
Bates, Edmund T., '93, Farmer, Wyoming, Ia.
Batien, Anna E., '19, Instructor H. Ec., Chatfield, Minn.
Beck, Milton, '93, Vice President, The Page Company, 72 West Adams St., Chicago, Ill.
Beck, Louis, '98, Proprietor Garage, Anaheim, Calif.
Beebe, Jay L., '00, Ph. G. '98, Physician, Anaheim, Calif.
Bell, Wm. D., '91, Editor, St Paul, Minn.
Bennett Lyle L., '17, P. G. Student, S. D. S. C.
Bentley, Norma, '19, Instructor English, Braidwood, Ill.
Bentley, Major Wm. S., '91, Ph. G. '00, American Red Cross, Bucharest, Roumania.
Bergeim, Frank, '19, Instructor Chemistry, Northwestern University, 837 Chicago Ave., Evanston, Ill.
Bergeim, Jos. '16, Principal High School, Mandan, N. D.
Bergeim, Olaf, '08, Ph. G. '06, Asst. Professor Physiological Chemistry, Jefferson Medical College, Philadelphia, Pa.

- Berglind, Axel, '18, Killed in France, November, 1918
- Bibby, Irwin J., '12, Proprietor Brookings Creamery, Brookings
- Bickel, Eva, '19, Instructor H. Ec., School of Agriculture, S. D. S. C.
- Biggar, Howard, '10, Cereal Expert, Agricultural Editor, Bloomington, Illinois.
- Binford, W. W., '04, Proprietor Garage, 216 W. Philadelphia St., Whittier, Calif.
- Binnewies, Edward, '13, M. S. '15, Assoc. Prof. Chemistry, S. D. S. C.
- Binnewies, Mabel (Shanley), '07, Sioux Falls
- Bird, Charlie L., Ph. G. '19, Druggist, Frankfort
- Bisby, Guy, '12, Ph. G. '12, Prof. Plant Pathology, Agricultural College, Winnipeg, Canada.
- Bissell, Wm. E., Ph. G. '17, Druggist, Plankinton
- Bittner, Albert, Ph. G. '18, Druggist, Cresbard
- Blakely, Clifford, '18, County Agr. Agent, White River
- Bolland, Jens, '15, M. S. '16, Died in Minneapolis, November, 1919
- Bolles, Laura, '01, Science Instructor, State Normal, Kearney, Neb.
- Bolles, Myrick N., '98, Farmer, Flandreau
- Bonesteel, Bee (Dillman), '06, Mandan, N. D.
- Boswell, Katie (Arnold), '89, Kennebec
- Boswell, Mildred (Ames), '18, Brookings
- Boyd, Mary (Labbitt), '01, 2709 S. Glass St., Sioux City, Iowa.
- Boyden, Frank E., '97, Ph. G. '02, Physician, 116 Lewis St., Pendleton, Ore.
- Boyden, Guy L., '05, Physician, 412 Perkins St., Pendleton, Ore.
- Briggs, Elmer E., Ph. G., '95, Druggist, Twin Bluffs, Wis.
- Briggs, S. F., '07, Briggs-Stratton Co., Electric Supplies, 258 Milwaukee St., Milwaukee, Wis.
- Brigham, Ruth, '13, Teacher, Brinklow, Md.
- Britzius, Arno, '14, Farmer, Madison
- Brosseau, Jesse E., '01, Ph. G. '00, Physician, Frankfort
- Brown, Cecil L., '19, P. G. Student, University of Mo., Columbia
- Brown, C. O., '94, Attorney, Douglas, Wyoming
- Brown, Geo., Ph. G., '10, Farmer, Clark
- Brown, J. A., '94, M. S. '96, Attorney, Burr & Brown, Lincoln, Neb.
- Brown, Sarah, '95, Teacher, Shannon City, Iowa.
- Brownell, Ellen (Wellington), '06, Calipatria, Calif.
- Browning, Albert, '19, Principal High School, Columbus, Mont.
- Browning, Lenore (Cummins), '17, Mandan, N. D.
- Bryant, Gladys, '19, Instructor H. Ec., Rapid City
- Buck, E. R., Ph. G. '09, Hotel Proprietor, Wessington Springs
- Bulger, Jacob W., '19, Instructor Agriculture, Woonsocket
- Burch, W. S., '07, Electrical Engr., Rochester Gas and Electric Co., 81 S. Fitzhugh St., Rochester, N. Y.
- Burghardt, Roy, '06, Electrical Engr., 1007 1st Ave., Seattle, Wash.
- Burton, Starling, Ph. G., '16, Pharmacist, 3227 Starr St., Lincoln, Neb.
- Bushey, Alfred, '14, Assistant Prof. Agronomy, S. D. S. C.

- Bushnell, Edna (Lindahl), '09, 1022 15th Ave., S. E., Minneapolis, Minn.
- Bushnell, Maud (Kelton), '04, Poynette, Wis.
- Caldwell, Florence (Heck), '15, U. S. Forests Products Lab., Madison, Wisconsin
- Caldwell, Jessie, '18, Instructor H. Ec., Miller
- Caldwell, Kate (Weber), '16, 105 Spooner St., Madison, Wis.
- Caldwell, Lacey, '15, Farmer, Wells, Minn.
- Calkins, Fred, '16, Electrical Engr., Ballstrom Lake, New York
- Camp, Fred, '09, Farmer, Winifred, Mont.
- Carlson, Ella (Howard), '00, Lake Preston
- Carlson, Esther (Lilygreen), '00, 701 Magnolia St., St. Paul, Minn.
- Carpenter, Abbie (Challmers), '06, E. 1121 Nora Ave., Spokane, Wash.
- Carpenter, Clarence, '07, Electrical Engr., Dakota Power Co., Rapid City
- Carr, George, Ph. G. '99, Druggist, Bison
- Carter, Louis W., '96, County Official, Highmore
- Casley, Lulu, '14, Instructor English, Bryant
- Catlett, Marguerite, '11, Instructor English, Rapid City
- Catlett, Winifred (Swering), '09, 43 Atlantic St., Buffalo, N. Y.
- Chamberlain, Sarah (Spooner), '91, Physician, 813 4th Ave., Detroit, Michigan
- Champlin, Manley, '09, Agronomist Extension Division, S. D. S. C.
- Chapman, Daphne (Serles), '16, Brookings
- Chappell, Bessie, '05, Instructor English, University of Wyoming, Laramie
- Chappell, Elsie (Wilson), '05, Brookings
- Chappell, Vincent, '14, Prof. Dairy Mfg., Oregon Agri. College, Corvallis, Ore.
- Chilcott, E. C., M. S. '98, Agronomist in Charge of Dry Land Agr., Washington, D. C.
- Chilcott, E. F., '06, Superintendent Dry Land Experiment Station, Woodward, Okla.
- Chilcott, Ralph E., '07, Farmer, Vienna, Va.
- Christianson, Christine (Buck), '07, 1518 S. Washington St., Denver, Colo.
- Christianson, Bennett C., Ph. G. '02, Druggist, Volga
- Christianson, Helen (Quinn), Ph. G. '12, Badger
- Christianson, Mabel, Ph. G. '19, Pharmacist, Watertown
- Clark, Esther, '18, Instructor H. Ec., State Normal, Valley City, N. D.
- Clark, Gladys, '19, Instructor H. Ec., Webster
- Clark, Robert, Ph. G. '12, Died in Sioux Falls Mar. 26, 1916
- Clark, Roy, '09, Chicago, Ill.
- Clarke, Bruce, Ph. G. '15, Pharmacist, Sioux Falls
- Clevenger, John W., '97, Ph. G. '98, Dentist, Chamberlain
- Clifford, Perry, '14, Farmer, Cresbard
- Cole, Glenn H., '13, Farmer, Gary

- Cole, John S., '03, Inspector Dry Land Experiment Stations, 430
Newton Place N. W., Washington, D. C.
- Colegrove, Ina (Nelson), '99, 11 Haviland St., Worcester, Mass.
- Colegrove, Letta (Drew), '03, 28 Laurel Ave., Highland Park, Ill.
- Coller, Fred A., '06, M. S. '08, Physician, 1221 Brockman Bldg., Los
Angeles, Calif.
- Collinge, Verne, '19, Instructor Agriculture, Northern Normal and In-
dustrial School, Aberdeen
- Cook, Orlan P., '19, Instructor Manual Training, Woonsocket
- Cooledge, Leslie, '11, Asst. Professor of Bacteriology, Agricultural
College, East Lansing, Michigan.
- Cooley, Hazel (Keddie), '15, Bear Lake, Mich.
- Cooley, W. R., '07, Farmer, Springfield
- Colliton, Ora, Ph. G. '15, Pharmacist, 643 Dayton Ave., St. Paul, Minn.
- Connell, John C., Ph. G. '00, Druggist, Luverne, Minn.
- Connely, Emma, Ph. G. '19, Pharmacist, Bottineau, N. D.
- Cornell, Harry M., '95, Real Estate, Mott, N. D.
- Corkhill, Clifford, Ph. G. '16, Pharmacist, Hurley
- Cornell, Edwin C., Ph. G. '01, Druggist, 1417 LaFond St., Minneapolis,
Minn.
- Cornwall, Floyd, Ph. G. '19, Pharmacist, Webster
- Cotter, J. C., Ph. G. '96, Implement Dealer, Dell Rapids
- Cottingham, J. T., '11, Newton Lumber & Mfg. Co., Colorado Springs,
Colo.
- Coughlin, Chas., '09, Mgr. Ladish Drop Forge Co., Cudahy, Wis.
- Crane, Austin B., '91, M. S. '03, Drainage Specialist, 2208 Hoyt Ave.,
Everett, Wash.
- Cranston, Margaret (Young), '01, Died at Oakes, N. D., June 7, 1907
- Cranston, May (Crane), '89, 2208 Hoyt Ave., Everett, Wash.
- Crofoot, Vanita, '18, Instructor H. Ec., 819 Park Ave., Bremerton,
Wash.
- Crosby, L. J., Ph. G. '09, Druggist, Hitchcock
- Cross, Alvah Geo., '89
- Crothers, Harold, '10, Instructor Electrical Eng., University of Wis-
consin, Madison
- Crothers, Ralph, '10, Farmer, Badger
- Crowley, D. C., Ph. G. '99, Druggist, 487 Hayes St., San Francisco,
Calif.
- Cuckow, Fred W., '03, Attorney, La Junta, Colo.
- Culhane, Alex, '15, Assistant in Dairying, S. D. S. C.
- Culhane, Jas., '15, Electrical Engr., Des Moines Electric Co., 1111
20th Ave., Des Moines, Ia.
- Culhane, M. E., '01, M. S. '07, President Culhane Adjustment Co.,
Brookings
- Cunningham, Ray C., '17, Assistant Secretary Y. M. C. A., University
of Minnesota, 512 Delaware St. S. E., Minneapolis
- Curtis, Elsie (Crane), '98, Kettle Falls, Wash.

- Dachtler, Fred J., '12, Farmer, Whitewood
Dahl, Clarence, Ph. G. '17, Pharmacist, Pierpont
Dakin, Norman, '17, Butter Inspector, 312 The Bourse, Philadelphia, Pa.
Daniels, Ida Blair, '19, Instructor Home Ec., Jerome, Idaho.
Davidson, Margaret (Crane), '98, Teacher, 1727 Ruby St., Spokane, Wash.
Davies, Autumn, '01, Instructor in History, High School, 1009 S. 30th Ave., Omaha, Neb.
Davies, Gladys (Grace), '06, Ph. G. '06, Akron, Colo.
Davies, Mary (Hutchins), '00, Falls City, Neb.
Davies, Sara (Sherwin), '00, 781 Eastern Parkway, Brooklyn, N. Y.
Davis, Clifford, '05, Farmer, Hawley, Calif.
Davis, Homer, '91, M. S. '97, Physician, Genoa, Nebr.
Davis, Samuel H., '92, Farmer, Beaverton, Ore.
Dawes, Adelia (Miller), '16, Tulane Univ., Station 20, New Orleans, La.
Day, John M., '90, Farmer, DeRidder, La.
DeGreef, Chas. W., '17, Principal of Schools, Strandburg
DeLa, J. W. R. H., '00, Editor Drake News, Drake, N. D.
Denhart, Cecil, '09, Grain Buyer, White
Dewing, Sara, '18, Instructor H. Ec., Lyons, Nebr.
Dexter, David F., Ph. G. '07, Druggist, Canton
Dibble, Hattie (Stow), '93, M. S. '99, Home Demonstration Agt., Vancouver, Wash.
Dibble, Ida (Brown), '96, care Burr & Brown, Lincoln, Nebr.
Dickey, James, Ph. G. '09, Druggist, Iroquois
Dillman, A. C., '07, Spec. Agt., Dept. Agr., Mandan, N. D.
Dillon, Con., Ph. G. '04, Druggist, 257 15th Ave. East, Eugene, Ore.
Dillon, Willis Clyde, '91, Attorney
Dodge, Fred E., '01, Mgr. Foster House, Redfield
Dokter, Garrett, '18, Farmer, Andover
Dott, Delia (Waters), '16, 217 North Cliff Ave., Sioux Falls
Doughty, Hettie (Dibble), '91, Egan
Doughty, Matt H., '00, Civil Engr., care Chief Eng. Delaware & Lackawanna Ry., Hoboken, N. J.
Doughty, Walter E., '17, Farmer, White
Downing, Jennie, '96, died at Redfield, S. D., February, 1920.
Drew, A. W., Ph. G. '03, Physician, Lieut. U. S. A., Fort Sheridan, Ill.
Drury, Joseph, '19, Farmer, Chamberlain
Drury, Lillian, '15, Secretary, Chamberlain
Duffy, Maggie (Irish), '90, Webster Groves, Mo.
Dulitz, Helen, '14, Instructor H. Ec., Wallace, Idaho
Dunn, E. W., '13, Civil Engr., 3610 Peters Ave., Sioux City, Ia.
Dutcher, R. Adams, '07, M. S. '10, Nutrition Chemist, U. of Minn., 2194 Hendon Ave., St. Paul, Minn.
Eckert, Henry, Ph. G. '00, Died at Menno

- Edgerton, Wm. M., '93, Physician, 2102 Dayton Ave., St. Paul, Minn.
Edson, Ray W., '12, Electrical Engr., Fort Wayne, Ind.
Egeburg, Hildus, '90, Farmer, Brookings
Eidsmoe, Clark T., Ph. G. '13, Pharmacist, Sisseton
Elliott, Bruce, '07, E. E. '09, Died at Brookings, Oct. 29, 1917.
Elliott, Robert, '14, Chemist, U. S. Food Laboratory, 4144 Arcade Bldg., Seattle, Wash.
Elliott, Ross, '07, E. E. '08, Dean Junior College and Instructor Manual Training, 406 Lincoln St., Hibbing, Minn.
Elliot, Roy, '05, Electrical Engr., Hotel Foster, Schenectady, N. Y.
Elliott, Warren, Ph. G., '19, Pharmacist, Sioux Falls
Else, Earl, '01, Ph. G. '00, Physician, Broadway Bldg., Portland, Ore.
Eng, Julius, Ph. G., '14, Druggist, Vienna
Engstrom, C. G., '13, Supt. Hutchinson Division, Northern States Power Co., Hutchinson, Minn.
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Eno, Durell Gilman, '89, Produce Merchant, Platte
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Fassett, Della (Loucks), '05, Watertown
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Faulkner, Hugh, '13, Farmer, Burkmere
Fellows, Carl, Ph. G. '11, Druggist, Plankinton
Fickle, Walter, '09, Died at Blunt, Jan. 26, 1911
Findeis, Philip, '99, Lumber & Implements, Miranda
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Furnstahl, John, '09, Died at Ajo, Ariz., Dec. 16, 1916
Gagel, Gerald, '07, Died at Bauming, Calif, June 1, 1919
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Gropengieser, Fred, '11, Died at Onida, S. D., December 15, 1918
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- Hopkins, Cyril G., '90, Died at Gibraltar, Oct., 1919

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Husted, Harley H., '97, Died at Lincoln, Nebr., Jan. 14, 1907
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Johnson, Chas., '10, Merchant, Hetland
Johnson, Clara (Johnson), '02, Brookings
Johnson, Clifford, '11, Died at Huron, September 1911
Johnson, Edw., '02, Died at Tacoma, Washington, May 1, 1907

- Johnson, Gustav, '19, Farmer, Norden
Johnson, Ira, '18, Farmer, Miller
Johnson, Issac B., '03, Lumberman, Brookings
Johnson, Milla (Anderson), '10, Died at New England, N. D., November, 1918
Johnson, Ralph J., '17, U. S. A. Aviator, Orlando, Fla.
Johnson, Rhoda (Lee), '01, Died at Denver Colo., October 18, 1909
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Jones, Robert, Ph. G. '09, Traveling Salesman, Madison
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Kendall, L. J., '01, Ticket Agent, C. & N. W. Ry., Brookings
Kendall, Krete (Miller), '03, Instructor in Art, S. D. S. C.
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 Kremer, Frank, '15, Lawyer, Watertown
 Kremer, Henrietta (Furnstahl), '12, Ajo, Ariz.
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Murphy, Wm., Ph. G. '95, Died at Brookings, S. D., July 5, 1896.
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- Ramsdell, L. C., Ph. G. '04, Died at Flandreau, S. D., July 1, 1919
- Ramsey, Henry J., '02, Fruit Storage Expert, U. S. Dept. Agr., N. Los Robles, Pasadena, Calif.
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- Revell, James, '18, Died at Brookings, Jan. 23, 1918
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- Roos, John, Ph. G. '18, Ph. C. '19, Druggist, Mellette
- Roskie, G. W., '02, Vice Pres., Bank of Brookings, Brookings
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- Skinner, Cecil, '17, Died at Bruce, S. D., March 13, 1919
- Skinner, Lila, '12, Instructor H. Ec., University of Ohio, Columbus
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- Slaatta, Emma, '16, Instructor H. Ec., Madelia, Minn.
- Sletten, Anthony, Ph. G., '18, Died in U. S. Army Service, February, 1919
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- Smith, Wm., '04, Missionary and Instructor in Silliman Institute, Damaguete, P. I.
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Taylor, C. De Witt, Ph. G. '99.
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Trumm, R. E., Ph. G. '03, Druggist, Hayti

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- Whitehead, B. T., '97, Ph. G. '95, M. S. '01, Died at Brookings, April 1, 1917
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STUDENT LIST

Note: The following abbreviations are used. G. S. for General Science, H. E. for Home Economics, C. E. for Civil Engineering, M. E. for Mechanical Engineering, E. E. for Electrical Engineering.

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Bennett, Lyle H.	Chem.	Canton
Bennett, Robert H.	Chem.	Brookings
Hoon, Glenn	Agron.	Cottonwood
Nelson, Edmond N.	Vet. Med.	Estelline

SENIORS

Allison, Andrew M.	G. S.	Brookings
Anderson, Alvia	H. E.	Brookings
Atwater, Effie	H. E.	Redfield
Austin, Guy	Agr.	Brookings
Baker, Frances	H. E.	Brookings
Bastian, Elias D.	Agr.	Redfield
Bergstresser, Grant	C. E.	Wentworth
Bucholz, Rudolph	Agr.	Brookings
Buck, Ruth	H. E.	Bruce
Bunday, Ray	G. S.	Brookings
Caldwell, Genevieve	H. E.	Brookings
Campbell, Dyer H.	G. S.	Brookings
Chappell, Genevieve	H. E.	Brookings
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Coughlin, Thomas	Agr.	Carthage
Culhane, Charles	Agr.	Brookings
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Doolittle, Edith	H. E.	Ipswich
Emerson, William	C. E.	Castlewood
Faulkner, James D.	C. E.	Burkmere
Fryer, Florence	G. S.	Doland
Gaylord, Clair E.	G. S.	Seattle, Wash.
Gilkerson, David	Agr.	Armour
Graves, Chas. L.	Agr.	Ashton
Halverson, Harry	Agr.	Brookings
Hansen, Eva P.	H. E.	Brookings

Hansen, Ross P.	G. S.	Brookings
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Hemingway, Robert	Phy.	Mattoon, Wis.
Hermanson, Peter E.	G. S.	Tyler, Minn.
Hood, Kenneth L.	Agr.	Groton
Huntimer, Marie V.	H. E.	Colton
Hutchinson, Florice	H. E.	Webster
Iverson, Bernard	Agr.	Madison
Jackson, Clark L.	G. S.	Dell Rapids
Johnson, Clarence E.	Agr.	Brookings
Johnson, James G.	C. E.	Pierpont
Johnson, Oreat N. R.	H. E.	Brookings
Johnston, Helen	H. E.	Quinn
Keck, Myrtle	H. E.	Brookings
Kneebone, John	Agr.	Eveleth, Minn.
Ladd, Leonard L.	Agr.	Brookings
Marshman, C. C.	C. E.	Brookings
Mathiesen, Homer A.	Agr.	Brookings
May, Gurney G.	Phy.	Yankton
Metzger, Roy	Agr.	Tyndall
Michaels, Ernest E.	C. E.	Watertown
Morrow, Madge	H. E.	Miller
Munro, Carol	H. E.	Wilmot
Noonan, Genevieve	G. S.	Frankfort
Nelson, Ineta	H. E.	Dell Rapids
Olson, Clarence	Agr.	Brookings
Parish, W. G.	Agr.	Gary
Peterson, Ruth	G. S.	Brookings
Price, Chas. R.	Phy.	Rapid City
Reedy, John E.	Agr.	Beresford
Reeves, Alta	H. E.	St. Lawrence
Robbins, Walter F.	Agr.	Carthage
Robinson, Edna	H. E.	Redfield
Rohrbach, L. Grace	H. E.	Clark
Ruden, Gilbert I.	G. S.	Hayti
Sacre, Carl	Agr.	Indianola, Ia.
Shelden, Rachel E.	H. E.	Brookings
Shepard, James H.	G. S.	Brookings
Sloan, Grace A.	H. E.	Brookings
Solberg, Harry	M. E.	Brookings
Stevens, Leo	C. E.	Brookings
Stumley, Alfred	Agr.	Volga
Swift, Cecile L.	H. E.	Brookings
Thelin, Guy A.	Agr.	Sioux Falls
Tompkins, Blanche	H. E.	Brookings
Trenner, Ephriam	Agr.	Cash

Valentine, Geo. H.	Agr.	White
Vera, Genaro	Agr.	Cochabamba, Bolivia
Vollmer, Louis	E. E.	Brentford
Walseth, Edwin T.	Agr.	Clear Lake
Walseth, Russell	Agr.	Clear Lake
Waters, Harley N.	E. E.	Wentworth
Woodruff, Lewis M.	Agr.	Wessington

JUNIORS

Anderson, Einar	G. S.	Brookings
Avery, Glenn	Agr.	Alexandria
Bakke, Benj. E.	E. E.	Howard
Biggar, George C.	Agr.	Brookings
Bruce, Marion N.	G. S.	Wall
Buck, Bonnie	H. E.	Bruce
Burger, Neva	H. E.	Wessington Springs
Burge, Violet M.	G. S.	Castlewood
Burkhart, Lyle	G. S.	Pierre
Chase, Marcus	G. S.	Brookings
Cram, Elmer E.	M. E.	Maxbass, N. D.
Cushing, Marie	H. E.	Ramona, Calif.
Dye, Emmett C.	C. E.	Gann Valley
Erie, Frances	G. S.	Brookings
Gardner, Richard H.	Agr.	Sioux Falls
Gilbert Paul	Agr.	Rochester, Minn.
Gilbertson, Gilbert	Agr.	Brookings
Griffin, Helen	H. E.	Clark
Haahr, Erwin H.	C. E.	Sioux Falls
Harvey, Gertrude	H. E.	Pierre
Hobbs, Oscar	E. E.	White Lake
Huchendorf, Ina	H. E.	Brookings
Hutchinson, Hazel	H. E.	Webster
Ice, Mrs. Fay	H. E.	St. Lawrence
Janssen, George	Agr.	Castlewood
Johnson, Palmer	C. E.	Brookings
Knutson, Wilma	G. S.	Brookings
Kopland, David	Agr.	Brookings
Lippert, Lorenz C.	Agr.	Timber Lake
Madsen, Mars L.	Phy.	Viborg
Merriman, Grace	H. E.	Brookings
Millett, Paul F.	G. S.	Fort Pierre
Pagel, Lucile	H. E.	Egan
Paulson, Joseph	Agr.	Brandt
Paz Torrico, Mariano	Agr.	Cochabamba, Bolivia
Peck, Clifford A.	Agr.	Hazel
Pepple, Erma	G. S.	Forestburg
Potter, Earl	E. E.	Carthage

Pratt, Pearl	G. S.	Aberdeen
Riddle, Mary M.	Spec.	Waubay
Rottluff, Karl	Phy.	Sioux Falls
Shinn, Elvin O.	E. E.	Carthage
Sievers, George	C. E.	Wessington
Sloat, Ora M.	H. E.	Gettysburg
Smith, Carleton B.	Agr.	Huron
Spitzer, Lena	H. E.	Edgeley, N. D.
Stewart, Howard M.	G. S.	Spearfish
Street, Thomas W.	Agr.	Albee
Swenhardt, Delmer	E. E.	Brookings
Towers, Ralph E.	C. E.	Clear Lake
Urton, Harold E.	Agr.	Fulton
Vessey, Aleta	H. E.	Wessington Springs
Vold, Geo. B.	G. S.	Platte
Walker, Jay F.	E. E.	Carthage
Weber, Robert	Phy.	Aberdeen
Ziegler, Pearl	H. E.	Brookings

SOPHOMORES

Anderson, Marion	E. E.	Estelline
Atkinson, Ruth	G. S.	Brookings
Baird, Marguerite	Phy.	Gettysburg
Beals, Daniel L.	Agr.	Brookings
Belk, Vida M.	H. E.	Henry
Bergerson, Ragnvold	C. E.	Canton
Brande, Leland	Agr.	Spencer
Brietson, Abner J.	G. S.	Brookings
Brinker, Chas.	C. E.	Madison
Brown, Esther	H. E.	Brookings
Burdett, W. J.	Agr.	Brookings
Carson, Donald	Phy.	Bradley
Clark, Velda	H. E.	Wessington Springs
Cole, Dexter	G. S.	Brookings
De Boer, Dewey	E. E.	Corsica
Delaney, Irma	G. S.	Lemmon
Doner, David	Agr.	Brookings
Emery, Dewey E.	E. E.	Sansarc
Enright, Philip J.	G. S.	Brookings
Erickson, Eric	E. E.	Trent
Forsee, Zeta	H. E.	Brookings
Funk, Virgil	E. E.	Lake Preston
Greening, John	Phy.	Milbank
Hanson, Marie J.	H. E.	Brookings
Hansen, Philip	Spec.	Brookings
Haroldson, Robert	C. E.	Brookings
Helgerson, Arthur M.	C. E.	Canton

Hepner, Geo. E.	G. S.	Brookings
Hermanson, Hazel	H. E.	Tyler, Minn.
Hutton, Paul M.	G. S.	Egan
Jarman, Ruby	H. E.	Brookings
Jones, Otho	Agr.	Frankfort
Jones, Victor E.	Phy.	Clark
Keith, Florence	H. E.	Brookings
Knudson, Sigurd	G. S.	Carthage
Korstad, Elvin	G. S.	Brookings
Kurrasch, J. H.	C. E.	Peever
Kurtz, William	Agr.	Brookings
Larson, Lorraine V.	E. E.	Lemmon
Lawson, H. A.	Phy.	Tulare
Laxson, Oliver	Phy.	Canton
Leavitt, Donald	C. E.	Worthing
Lee, Irwin	C. E.	Volga
Mallery, Esther	Phy.	DeSmet
Martin, Floyd	C. E.	Northville
Matson, Arthur	E. E.	Brookings
Matthews, Earl	C. E.	Alexandria
Miller, Magdalene	H. E.	Hudson
Nielsen, 'Susie	Phy.	Rapid City
Nord, Alfred E.	Agr.	Milbank
Odland, Arthur W.	G. S.	Hurley
Olson, Lawrence M.	G. S.	Brookings
Overseth, Oliver E.	Agr.	Canton
Pearson, Gladys	Spec.	Brookings
Peddicord, Helen	H. E.	Brookings
Pinard, Noel L.	Phy.	Wagner
Pittenger, Wm. H.	Phy.	Brookings
Reeves, Evelyne	G. S.	Brookings
Renwick, Margaret	G. S.	DeSmet
Riley, Edna M.	Phy.	Brookings
Safford, Harold	Agr.	Aberdeen
Salisbury, James A.	Agr.	Presho
Schooley, Olive C.	Agr.	Watertown
Sculley, Jesse C.	G. S.	Brookings
Shaw, Robert C.	E. E.	Hazel
Solberg, Elizabeth	G. S.	Brookings
Strouse, Harry J.	Agr.	Oelrichs
Tehon, O. Charline	H. E.	Hamilton, Mont.
Temte, Eva	G. S.	Flandreau
Thornber, Hubert	C. E.	Colman
Tommeraasen, Otto J.	Phy.	Madison
Tracy, James	Phy.	Webster
Turner, Zula	H. E.	Brookings

Underwood, Paul	Agr.	Willow Lakes
White, Clarence	Agr.	Clark
Wilensky, A.	C. E.	Sioux City, Iowa

FRESHMEN

Ahlers, Percy	Phy.	Webster
Aldrich, Merton	Agr.	Bigstone
Alton, Frances	Com'l.	Brookings
Backes, John T.	Phy.	White Lake
Backman, Adolph	Agr.	Shadehill
Bacon, Erwin	Agr.	Brookings
Bartlett, Elwin E.	G. S.	Brookings
Bastian, Lloyd	E. E.	Redfield
Beatty, Audrey B.	H. E.	Elrod
Bemies, Carl L.	G. S.	Brookings
Bemies, Clifton S.	G. S.	Brookings
Benson, Henrietta	Spec.	Sioux Falls
Billings, Floyd D.	Agr.	Geddes
Blakeslee, Chas.	C. E.	Brookings
Blecker, Samuel	G. S.	Brookings
Borah, J. C.	M. E.	Huron
Brown, Elizabeth	G. S.	Brookings
Bulger, Raymond	Agr.	White
Button, Gordon	E. E.	New Lenox, Ill.
Carey, Eugene F.	E. E.	Salem
Carson, Phillip D.	Com'l.	Dupree
Clement, Fritz	Phy.	Java
Corbin, Robert	Agr.	Brookings
Corcoran, George	M. E.	Centerville
Craun, Horace	E. E.	Willow Lakes
Cutler, Jesse C.	E. E.	Athol
Dalthorp, Richard	C. E.	N. Yakima, Wash.
Dempster, Wallace	Phy.	Brookings
Dickinson, Lloyd	Phy.	Tuscola, Ill.
Dokter, Georgia	H. E.	Andover
Donaldson, Dale M.	Agr.	Tracy, Minn.
Doolittle, Meryl	G. S.	Ipswich
Drayer, Phyllis	G. S.	Frankfort
Driver, Marion	H. E.	DcSmet
Dybdahl, Clarence	G. S.	Brookings
Eberlein, Louis	Agr.	Brookings
Emly, Andrew J.	G. S.	Pekin, Indiana
Enright, Harold	G. S.	Brookings
Erickson, Vernon R.	Agr.	Beresford
Estensen, Stanley J.	G. S.	Sherman
Fairbairn, John K.	Agr.	Joliet, Ill.
Fenn, Benjamin R.	Agr.	Brookings

French, Dewey	Phy.	Frankfort
Fryer, Elsie	G. S.	Doland
Funk, Jack	G. S.	Fort Dodge, Iowa
Gannon, Earl	A. M.	Fulton
Gerbig, Orville	Phy.	Webster
Gibson, C. S.	E. E.	Veblen
Godron, Paul	Agr.	White
Goplin, Grace C.	Music	Edgerton, Minn.
Graves, Ben	Agr.	Clark
Gullick Kenneth	E. E.	Brookings
Haber, Donald	G. S.	White
Halversen, Irene	H. E.	Brookings
Halversen, Mamie	H. E.	Brookings
Haugen, Berdick	M. E.	Brookings
Hawkins, Ruth	Music	Brookings
Headley, Frank	G. S.	Menno
Hegg, Clarence E.	C. E.	Faribault, Minn.
Henning, Hazelle	H. E.	DeSmet
Henry, Leon	C. E.	Volga
Henry, Nellie	G. S.	Volga
Hinds, Sybil	Com'l	Sioux Falls
Holm, George A.	M. E.	Pierre
Holman, Henry R.	G. S.	Nunda
Hoon, Ruth	H. E.	Cottonwood
Hough, Inez	Phy.	Glenham
Houghton, Albert W.	C. E.	Brookings
Hoy, Dale	E. E.	Brookings
Jarman, William	Agr.	Brookings
Jennings, Albert	M. E.	Sioux Falls
Jensen, Ruby	H. E.	Goodridge, Minn.
Jespersen, Anna	Com'l.	Holmquist
Johnson, Garland	G. S.	Brookings
Kempley, Walter V.	Com'l.	Ft. Dodge, Iowa
Kennard, Elmer	Agr.	Brookings
Kenyon, Orville	Phy.	Gary
Kerr, Beulah	H. E.	Bruce
Kidman, Ross	Agr.	Vicenna
Kleuber, Esther K.	Com'l.	Waubay
Lambe, Carl	Agr.	Brookings
Lander, Francis A.	E. E.	Salem
Larson, Guy A.	Agr.	LaCrosse, Wis.
Lee, Edith	Com'l.	Lily
Leighty, Chas. F.	E. E.	Brookings
Lekvold, Alfred	Com'l.	Naples
Lindland, Alice	H. E.	Naples
Lloyd, George	Phy.	Vayland

Locke, Rush B.	Agr.	Sheridan, Wyo.
Lord, George P.	E. E.	Willow Lakes
McCain, T. P.	Phy.	Arcola, Ill.
McCarthy, Daisy	H. E.	St. Lawrence
McGuire, Thomas	Phy.	Philip
McIntosh, Hazel	H. E.	Sioux Falls
McKay, John J.	Phy.	Pierre
McKean, Everett	Agr.	Midland
McKennett, Madeline	H. E.	Webster
McKinnon, Theodore	Phy.	Canistota
Madden, Natalie E.	Phy.	Castlewood
Major, Guy	C. E.	Wessington
Mandigo, Guilford	M. E.	Bismarek, N. D.
Mann, Bernice	Com'l.	Brookings
Martin, Lester	E. E.	Brookings
Mast, Wm.	G. S.	Grand Junction, Colo.
Mathews, Hermine	H. E.	Brookings
Merry, Isabel	H. E.	Dell Rapids
Michaels, Walter	Agr.	Watertown
Mitchell, Donald	Phy.	Brookings
Mix, Phylo	Agr.	Brookings
Monk, John J.	Com'l.	Ft. Dodge, Ia.
Mortensen, Arthur	C. E.	Bruce
Mossing, Leo K.	Agr.	St. Onge
Myron, Selina	Phy.	Vermillion
Nelson, Harold	Phy.	Brookings
Nelson, Vivian	G. S.	Pierre
Nelson, Theodore	Agr.	Tracy, Minn.
Nesseth, Agnes	Com'l.	Menomonio, Wis.
Neyhart, Marvel W.	M. E.	Gorman
Nordaker, V. A.	E. E.	Watertown
O'Hair, Carl	G. S.	Brookings
Olson, Irene	H. E.	Egan
Ondell, Vernon	E. E.	Conde
Orhrans, Venie	H. E.	Brookings
Orvis, Clarkson F.	Agr.	Earlville, Ia.
Page, Elmer B.	C. E.	Dell Rapids
Peppers, Ralph C.	C. E.	Groton
Peterson, Harriett	Com'l.	Brookings
Phillips, Claude	Agr.	Watertown
Reeves, Gertrude	Com'l.	DeSmet
Reinecke, Irene	H. E.	Beulah, Wyo.
Revell, Frank	Agr.	Brookings
Riley, Louise	G. S.	Parker
Robbins, Norma	Phy.	Redfield
Roberts, George	Com'l.	Villa Grove, Ill.

Rogers, Archie T.	Agr.	Midland
Rolfe, Esther	Phy.	Balaton, Minn.
Rude, Ida	G. S.	Brookings
Rude, Minnie	G. S.	Brookings
Sawyer, Roland	Agr.	Howard
Sayre, Lawrence	G. S.	Brookings
Schmitt, Leonard	G. S.	Menno
Schulz, Alvin	G. S.	White
Sellers, Lucile	H. E.	Mt. Vernon
Sexauer, Verna	H. E.	Brookings
Shearer, James	Phy.	Mason City, Iowa
Simon, Arthur F.	G. S.	Princeton, Ill.
Simonson, Herbert	Agr.	Brookings
Smail, Andrew	M. E.	Webster
Smith, Clyde M.	Com'l.	Omaha, Nebr.
Smith, Fay	Com'l.	Madison
Smith, Joseph M.	Agr.	Sioux Falls
Smith, Rachel	Com'l.	Egan
Sorenson, Arlo H.	Phy.	Hurley
Stanton, Edward	Phy.	Mitchell
Starr, Herman	G. S.	Mitchell
Staven, Julian	G. S.	Brookings
Stevens, Louis	Agr.	Jefferson
Stout, Harold	Phy.	Parker
Street, Roy	Agr.	Albee
Summerson, Wead	C. E.	Carthage
Thomas, Adelaide	G. S.	Ipswich
Thomas, Alma	G. S.	Mitchell
Thune, Leonard	Agr.	Albert Lea, Minn.
Tompkins, Lawrence	E. E.	Brookings
Towers, John L.	C. E.	Clear Lake
Treffry, Ralph	Agr.	Springfield
Turner, Julia	H. E.	Sioux Falls
Valentine, Julia	Phy.	White
Van Dusen, Rena	H. E.	Yankton
Walker, Elliott G.	E. E.	Carthage
Wallis, Carroll G.	Agr.	Riverside
Walseth, Clarence A.	E. E.	Clear Lake
Walter, Glenn	G. S.	Madison
Waterman, Lura	G. S.	Faulkton
Weaver, Alyce	Com'l.	Brookings
Wedgwood, Jessie	H. E.	Trent
Welty, Earl	G. S.	Minneapolis
Wheeler, Harry	M. E.	Wessington Springs
Whitehead, Donald	G. S.	Brookings
Willadsen, Clair H.	Agr.	Albert Lea, Minn.

Williams, Marshall	.....Agr.	.....Aberdeen
Wilson, Edwin E.	.....Agr.	.....Letcher
Wold, Ruby	.....H. E.	.....Brookings
Wright, Floyd	.....Agr.	.....Haynes, N. D.
Wyland, Isaac	.....E. E.	.....Miller
Yeadicke, Chas.	.....G. S.	.....Plankinton
Yule, Robert	.....C. E.	.....Brookings
Ziegler, Hortense	.....H. E.	.....Brookings

CORRESPONDENCE STUDENTS

Anderson, Mrs. Agnes	.....H. E. & Agr.	.....Hetland
Aube, Chas. F.	.....H. E. & Agr.	.....Glenham
Austin, Mrs. Olive C.	.....Agr.	.....Cottonwood
Beck, Alice	.....Agr.	.....Bison
Carter, Myrtle	.....Agr.	.....Dewey
Chrisler, Verna	.....H. E.	.....Brandon
Cope, Alice	.....H. E.	.....Wakonda
Cowan, Homer W.	.....Agr.	.....Gayville
Culver, Bessie	.....Agr.	.....Hurley
Finn, Edward	.....Agr.	.....Lodgepole
Foulkes, Mrs. Louise	.....Agr.	.....Canova
Gillies, Janetta	.....H. E. & Agr.	.....Putney
Grotta, Sophia	.....Agr.	.....Moenville
Gull, Zona E.	.....Agr.	.....Edgemont
Gurney, J. T.	.....Agr.	.....Winner
Hagen, Alfred T.	.....Agr.	.....Webster
Hargrove, Ethel	.....Agr.	.....Parker
Hilliard, L. M.	.....Agr.	.....Ree Heights
Hofer, Susie J.	.....H. E. & Agr.	.....Tripp
Hoffman, Viola	.....Agr.	.....Revillo
Hughes, Mrs. Folan	.....Agr.	.....Hayes
Josephine, Sister M.	.....H. E.	.....Grenville
Kidder, W. L.	.....Agr.	.....Lake Norden
Knudtson, O. E.	.....Agr.	.....Wakonda
Korab, Anna	.....Agr.	.....Witten
Larson, L. P.	.....Agr.	.....Howard
Lawless, Laurretta	.....H. E. & Agr.	.....Burbank
Leighty, Alma Jane	.....H. E. & Agr.	.....Parker
Lidwine, Sister M.	.....Agr.	.....Zell
Lockhart, Nettie M.	.....H. E.	.....Albee
Lomica, Anna	.....H. E.	.....Academy
McDonald, Inez	.....H. E. & Agr.	.....Hilland
Meliker, Herbert	.....Agr.	.....Frederick
Messing, Louise	.....H. E.	.....Delmont
Nelson, Rachel O.	.....H. E.	.....Midland

Osborne, Clarence J.	Agr.	Redig
Osborne, Jennie L.	H. E.	Redig
Parsons, I. Ruth	H. E.	Quinn
Patricia, Sister M.	H. E.	Jefferson
Peterson, J. A.	Agr.	Witten
Phares, W. M.	Agr.	Dell Rapids
Rogers, Adaline	Agr.	Tyndall
Tronvold, Edna	H. E. & Agr.	Bovee
Vauruska, Lillian	H. E.	Blaha
Whaley, Birdie	H. E.	Wolsey
Yale, Pearle	Agr.	Stamford

UNCLASSIFIED

Andrews, F. H.	Brookings
Bairey, Esther	Brookings
Ball, Chester S.	Brookings
Barber, Chas. W.	Newell
Barber, Paul B.	Brookings
Betker, Oscar S.	Sidney, Mont.
Binnewies, Mrs. Ina	Brookings
Blair, Terrace W.	Tilford
Cach, Anna	Scotland
Calfee, Warren W.	Milbank
Cornell, L. D.	Brookings
Dahlin, Alfred G.	Sisseton
Dvorak, Helen	Brookings
Evans, Morris	Houghton
Fairchild, Emma	Elbon
Feuerhelm, Eva	Brookings
Gilbertson, Mary	Brookings
Gossman, Lee F.	Canton, Minnesota
Hall, Bert	DeGrey
Himes, Fred	Gregory
Hjertaas, Ruth	Brookings
Holstad, Elmer J.	Brookings
Janousek, Chas.	Hamil
Jensen, Verna	Brookings
Jones, Horace	Brookings
Kerlin, Madge	Murdo
Knapke, Larry A.	Winona, Minnesota
Knutson, Hilda	Brandt
Lerret, Anker	Flandreau
Michel, Mrs. C. W.	Brookings
Milne, Mrs. Claire W.	Brookings
Muhlhausen, Jessie V.	Flandreau
Nelson, Alma	Brookings

Olson, Angie	Brookings
Pastian, Albert G.	Herrick
Peterson, John P.	Bison
Peterson, Magnus	Pierre
Rand, John E.	Jeffers, Minn.
Reinecke, Vera	Brookings
Ronning, Selma	Brookings
Roush, Joe R.	Draper
Scarlet, Ethyl	Brookings
Severin, Lois	Brookings
Severson, Edith	Brookings
Shaffer, Hortense	Brookings
Slocum, Gladys M.	Brookings
Specketer, Marie	Brookings
Swift, Mae D.	Brookings
Thompson, Mrs. G. E.	Brookings
Vollmer, Mrs. C. E.	Brookings
Walters, Raymond	Woonsocket
Willis, Mrs. A. J.	Brookings
Wright, Zelma	Brookings
Young, Ben H.	Ft. Pierre

PREPARATORY

FOURTH YEAR

Allcott, Carroll	Reliance
Bogstie, Arthur	Brookings
Curtis, D. D.	Lemmon
Dempster, Anna	Brookings
Dye, Lynette	Gann Valley
Englehorn, Alfred	Wagner
Johnson, Julian K.	Carlton, Ga.
Keith, Mark	Brookings
Kirk, Carl	Lake Norden
Lawrence, Walter	McIntosh
McWhirter, Wilson	Vivian
Ondell, Manoah	Conde
Petheram, Harold	Wentworth
Robinson, John	Toronto
Snyder, Francis A.	Estelline
Solberg, Ruby	Brookings
Solheim, Myrtle	Garretson
Sommers, Kathryn	Eden
Sueltz, Arthur	Groton
Tate, May	Brookings
Wedgwood, Gladys	Trent

THIRD YEAR

Bouzek, Cathryn	Highmore
Donahoe, Joseph	Sioux Falls
Eberhard, Wesley	Lane
Hutton, Helma	Brookings
Jacobs, Adeline	Denison, Iowa
Jasperson, Victoria	Aberdeen
Killam, Dora	Farmingdale
Kopland, Lucile	Brookings
Lindsey, James E.	Brookings
Mathews, Zoa	Brookings
Motley, J. Willis	Frankfort
Schrader, John	Lake Preston
Shepersky, Wesley W.	Butler
Slocum, Harold	Brookings

SECOND YEAR

Brumwell, Roy F.	Huron
Eves, Harold	Wolsey
Halstead, Maude	Brookings
Hoy, Marguerite	Brookings
Johnson, Clarence M.	Hammer
Kennard, Marie	Moscow, Idaho
Kjenslee, Lloyd	Brookings
Lee, Edythe	Rutland
Lindland, Lloyd	Brandt
Norman, Rose	Brookings
Rovainen, Helen	Franklin, Minn.
Smith, Perry G.	Lane
Watkins, Vernon L.	Sturgis
Wattnem, Ruth	Estelline

FIRST YEAR

Abbott, Loyse	Huron
Amundson, Serene	Chatfield, Minn.
Anderson, Anna	Woonsocket
Bovee, Sumner	Elk Point
Calfee, Wm. W.	Milbank
Chase, Mae	Brookings
Christensen, Arne	Brookings
Davis, Arthur V.	Estelline
Hermann, Frank	Farmingdale
Hetland, John	Montrose
Hinkle, Emory	Brookings
Houghton, Percy	Brookings
Jensen, Agnes E.	Tyler, Minn.

King, Nellie	Wilmot
Kopland, Ilo	Brookings
Kugler, William	Lidgerwood, N. D.
Kurtz, Theodore	Bushnell
Landon, Edith	Brookings
Langley, Dorance C.	Witten
Lee, Ross	Rutland
Lehmann, Fred	Flandreau
Longwood, Walter D.	Cole
Longwood, Wm. D., Jr.	Cole
MaComb, Florence	Brookings
MaComb, Helen	Brookings
Mathews, Ralph	Van Metre
Morse, Walter M.	Wolsey
Norgaard, Rollo	Dell Rapids
Nyman, Milford	Brookings
Pearson, Agnes	New Effington
Peterson, Ralph	Irene
Schlegel, Armour	Corsica
Smith, Lewis R.	Miller
Solberg, Clarence	Brookings
Steile, Carl L.	Hilland
Treffry, Paul	Springfield
Tripp, Gilbert S.	DeSmet
Wheelock, Cecil	Kempska

SCHOOL OF AGRICULTURE

FOURTH YEAR

Beatty, Richard	Elrod
Crowell, Alfred	Brookings
Daker, Mildred	Houghton
Dybdahl, Lillian	Brookings
Hanson, Carl J.	Lily
Johnson, Florence	Brookings
Johnson, Vera	Balaton, Minn.
Longman, Wilford	Toronto
Lundeen, Florence	Brookings
Markve, Carl	Ortley
Merry, Lyman	Dell Rapids
Parcells, Mabel	Balaton, Minn.
Paulson, Signus	Lily
Peterson, Karl	Lily
Powers, Robert	Delmont
Rodway, Christian	Hudson
Rude, Cecelia	Brookings

Rundell, Merle	Hurley
Schmidt, Lilly	Alpena
Sckerl, Herbert	Lake City
Spicer, Lawrence	Wessington
Stitt, Lyle	Hitchcock
Stormo, James	Hazel
Urben, Willie	Worthing
Wood, Ray	Worthing

THIRD YEAR

Bates, John A.	Chelsea, Mass.
Baxter, John	Hazel
Bentley, Helen	Bryant
Bickel, W. E.	Huron
Brock, Glenn	Huron
Brown, D. E.	Bradley
Brown, Lawrence	Yankton
Chrisler, Claude	Brandon
Christianson, Esther	Jasper, Minn.
Crain, Clyde	Esmond
De Witte, Ellsworth	Holabird
Doner, Harold	Gorman
Eklund, Edith	DeSmet
Erickson, Harold	Salem
Feind, Ernest	Hazel
Flisrand, William	Florence
Green, Max	Hazel
Hedeon, Clifford	Beresford
Hetland, Conrad	Montrose
Hoime, Neva	Sherman
Hutton, Helma	Brookings
Jensen, Corliss	Farmingdale
Jensen, Olga	Renner
Johnson, Esther	Lowry
Johnson, A. Wilfred	Volga
Keck, Almer J.	Brookings
Kittleson, Selma	Henry
Kuehl, Adolph	Yale
Lindblom, Guy	Canova
Meyer, Albert	Huron
Meyer, Edward	Cavour
Miller, Frank	Chelsea
Moen, Morris	New Effington
Nelson, Martha	Dell Rapids
Pierce, Frank H.	Leola
Pihl, Alvin	Waukegan, Ill.
Rohrbach, Glenn	Brookings

Rude, Grace M.	Brookings
Sloat, Fred	Gettysburg
Sloat, May	Gettysburg
Spicer, Clarence	Wessington
Stoneback, George	Harrisburg
Sundet, Philip	Brookings
Thompson, Harold	Artesian
Wynn, Phillip	Waukegan, Ill.

SECOND YEAR

Bell, Walter	Rockham
Bezner, Edna	Highmore
Bixler, Harry	Wakonda
Brandstedt, Frank	Alpena
Brown, Maybel	Yankton
Brumwell, Roy	Huron
Butterfield, Ernest	Wessington Springs
Charlet, Mark	Volga
Chester, Otto	Bruce
Duff, Edna	Brookings
Eidem, Samuel	Elk Point
Flisrand, Arthur	Florence
Fosheim, Jacob	Bristol
Gigg, Frank	McClure
Granner, Gertrude	Estelline
Green, George	Hazel
Gunderson, Rosella	Brookings
Hanson, Arthur H.	Elk Point
Hanson, Arthur M.	Brookings
Hanson, Edwin	Vermillion
Hast, Donald	Bruce
Hatlestead, Theodore	Garretson
Heeren, Alvin	Dell Rapids
Heeren, Calvin	Dell Rapids
Hollander, Nellie	Artesian
Holliday, Ralph	Brookings
Hollingsworth, Philip	Woonsocket
Hoyme, Rosella	Sherman
Hustoft, Martin	Dell Rapids
Jahnig, Arthur	Britton
Johnson, Joseph	New Effington
Joy, Archie	Midland
Kies, Fred	Hurley
Knudsen, Wilbert	DeSmet
Linn, W. Day	Rockham
Loken, Theodore	Pierpont
Longman, Mabel	Brookings

Lucke, Glenn	Doland
Lund, Raymond	Wessington
Luther, Leonard	Medicine Lodge, Kans.
Millard, Arthur D.	Yankton
Millard, Wm. D.	Clark
Miner, Harlow	Carlock
Nordmark, Ralph	Platte
Olson, Everett	Kirley
Piper, Olie	Carpenter
Putman, Carl	Oahe
Reinecke, Emerald	Beulah, Wyoming
Ring, Gladys	Henry
Rusten, June	Beresford
Schreiber, Arnold	Agar
Schwartz, Hilbert	Canton
Scott, Maurice	Bruce
Sellers, Mary	Mt. Vernon
Smiley, Guy	Bunker
Strunk, Walter	Irene
Sutton, Claude	Agar
Terney, Thomas	Baxter, Iowa
Trotter, Joseph	Provo
Vinge, Julian	New Effington
Wieting, George	Hitchcock

FIRST YEAR

Anderson, Reubin	Montrose
Anfinson, Ellen	Elko, Minnesota
Apland, Will	Oldham
Barber, E. Ward	Agar
Barnes, John M.	Wessington Springs
Baxter, Eva	Hazel
Baxter, Everett	Hazel
Baxter, Oliver	Hazel
Beatty, Wallace	Elrod
Berg, Alfin	Sisseton
Bever, Neil	Agar
Bisgard, Harvey	Waubay
Blair, Terrace Wm.	Page, Nebr.
Boice, Burdette	South Shore
Boice, Evelyn	South Shore
Briscoe, Harold	Gorman
Brock, Elvin	Hitchcock
Brudvig, Nels	Irene
Bue, Oscar	Grenville
Bult, Samuel	*
Burbidge, Robert	Harrison
	Hazel

Burke, Francis	Faulkton
Burrus, Edward	Sansarc
Bury, Florence	Holmquist
Buse, Arthur	Marion Junction
Buse, William	Marion Junction
Carroll, Hugh	DeSmet
Chilman, Hugo	Platte
Conlon, Edward	Faulkton
Cooper, Charlie	Doland
Coulter, Lawrence	Raymond
Cowan, Joseph	Crandall
Crane, Ralph	Ipswich
Cranston, Warren	Huron
Crase, Dorlon	Brookings
Crisman, Owen	Armour
Crogstad, Leonard	Alcester
Cumming, Ross	Broadland
Dahlin, Alfred G.	Sisseton
Dickman, Luella	Freeman
Dobberstein, Roy	New Effington
Dodds, Robert	Britton
Doner, Howard	Gorman
Doud, Ralph	Midland
Driver, Grant	St. Charles
Duff, Orville	Brookings
Eastman, Howard	Plankinton
Edleman, Earl	Bryant
Eggers, Alfred	Sioux Falls
Eggert, William	Rockham
Eide, Nels	Sisseton
Elkins, Earl	Boyes, Mont.
Ellingson, Glenn	Flandreau
Ellison, Lester	Dolton
Erdman, Wayne	Corsica
Fairchild, Jasper	Elbon
Falkenhagen, Floyd	Agar
Fladland, Earl	New Effington
Forby, George	Onaka
Forby, James	Onaka
Foster, Robert	Brookings
Franzke, Clifford	Pukwana
Fred, Henry	Canova
Fred, Violet	Canova
Frier, Victor	Wakonda
Grauger, John	Clear Lake
Gerner, Delma	Platte

Gibson, Clifford	Leola
Glanzer, David	Vermillion
Gredvig, Walter	Bruce
Grieve, Lawrence	Wessington Springs
Gunderson, Alfred	Brookings
Hacechy, Charles	Yankton
Hagen, Noel	Sisseton
Hagmann, Merle	Ashton
Hague, John	Highmore
Haney, George	Hazel
Haney, Robert	Hazel
Hansen, Ernest E.	Bradley
Hansen, Ernest M.	Beresford
Hanson, Henry	Brookings
Hart, Howard	Dell Rapids
Hartwig, Raymond	Redfield
Hofer, Paul	Dolton
Hollister, Arthur	Sherman
Holmes, James	Kennebec
Holzworth, John	Vienna
Huisman, John	Scotland
Hustoft, George	Dell Rapids
Iverson, Leonard	Sioux Falls
Iverson, Milton	Worthing
Jakle, Herbert	Waubay
Johnson, Peter	Grenville
Jones, Harry	Sansarc
Kilen, Ole J.	Jackson, Minn.
Klampe, Orville	Clark
Knickrehm, Arthur	Carpenter
Knudson, Elmer	DeSmet
Knuppe, Willis	Farmingdale
Kuehl, Amanda	Yale
Largis, Clarence	Amidon, N. D.
Larson, Harold	Brookings
Larson, Oscar	Hudson
Law, Allan	Carlyle
Lee, Charles H.	Flandreau
Leibert, Lester	Bushnell
Lievan, Wayne	Brookings
Lindland, Glenn	Naples
Linn, Glenn	Rockham
Lippman, Harold	Lemmon
Lundberg, Henry	Waubay
Lundin, Emma	Springfield
Lusk, Earl	Bradley

Lytle, Chester	Hitchcock
McCowen, Richard	Wayside, Nebr.
McDaniel, Glenn	Faulkton
McNamara, Harold	Hazel
McPherson, Geo. B.	Sturgis
Macomb, Willis	Brookings
Madsen, Elsie	Yankton
Madsen, Niels	Raymond
Manfull, Harry	Gettysburg
Marvin, Lucile	Brookings
Mathews, Ruth	Van Metre
Merry, Robert	Dell Rapids
Mitchell, Glenn	Canistota
Monson, Leonard	Lily
Monson, Wilhelm	Reliance
Moore, Lowell	McClure
Munger, Floyd	Chamberlain
Nemec, Charles	Midland
Nemec, Edward	Midland
Nemec, Emil	Midland
Nutt, Ralph	Flandreau
Oakland, Godfrey	Cooper
Olson, Milford	Canton
Opdahl, Robert	Vienna
Parshall, Charles	Colome
Pastian, Albert	Herrick
Peregrine, Ervin	Mud Butte
Peterson, Magnus	Pierre
Peterson, Peter	Lily
Pittinger, Earl	Brookings
Pond, Paul	Hill City
Porter, Glenn	Onida
Porter, Maurice	Onida
Putman, Floyd	Oahe
Quissell, Clara	Jasper, Minn.
Rabuck, Meril	Redfield
Rand, John E.	Jeffers, Minn.
Reeve, Donald	Brookings
Reynolds, Margaret	Bancroft
Rezac, Joseph	Tabor
Ronning, Oliver	Alcester
Sarntee, Nicholas	Groton
Schafer, Edwin	Sioux Falls
Schliem, Theodore	Sioux Falls
Schmidt, Herman	Alpena
Schramm, Arthur	Utica
Schulz, Agnes	Wessington Springs

Sigdestad, Joel	Bristol
Simpkins, Merle	Wood
Sloat, Phebe	Gettysburg
Smith, Bert	Brookings
Smith, Edward	Dallas
Sonnenchein, Wallace	Ft. Pierre
Spicer, Cecil R.	Wessington
Stee, George	Florence
Steingrube, Henry	Volin
Steinhauser, Harold	Hitchcock
Stevens, Walter	Canistota
Stitt, Rhea	Hitchcock
Stroschein, Helena	Freeman
Strunk, George	Irene
Talsma, Martha	Springfield
Tate, Philip	Worthing
Taylor, Alfred	Conde
Teaney, Thomas	Midland
Tepley, William	Geddes
Thompson, C. L.	Raymond
Thoreson, Marlow	Clark
Thorne, George	Capa
Traylor, Harold	Wessington Springs
Uecker, Willie	Delmont
Ufford, Frank	Vermillion
Varnum, Paul	Centerville
Vostad, Thorwald	Volga
Wahlen, Nels	Millard
Wallin, Gust	Bemis
Wallquist, Almer	Canton
Walter, Elias	Carpenter
Walters, Raymond	Woonsocket
Welch, Joe	Parkston
Wells, Lawrence	Harrold
Wells, Lewis	Harrold
Wharton, Glenn	St. Lawrence
Willi, Herbie	Lake Preston
Williams, Harley	Clark
Williams, Lawrence	Murdo
Young, Albert	Scenic
Young, B. H.	Wessington
Young, Murrin	Scenic

TRACTOR AND AUTO MECHANICS

Abrahamson, Adolph	Howard
Aker, Harry	Colton

Allen, Chester	Faulkton
Anderson, James	Milbank
Aronson, Edward	Brookings
Aslakson, Omer	Brookings
Aslesen, Olaf	Waubay
Aust, Spencer	Burbank
Barker, Cleon M.	Pringle
Barnett, Robert	Manchester
Bates, Raymond M.	Roscoe
Bauer, Harry	Gettysburg
Bankert, Rex	Iroquois
Beck, George	Ipswich
Berndt, Herbert E.	Avon
Birkland, Carl	Beresford
Brown, Harold	West Plains, Mo.
Carpenter, Wade	Meckling
Chester, Everett J.	Drayton, N. D.
Christensen, Harry	Elburn, Ill.
Christoffersen, Ewald	Lake Preston
Christoffersen, Thorward	Lake Preston
Christopherson, Vernon	Brookings
Crane field, Fred	Conde
Cutshaw, James	Conde
Danielson, Arthur G.	Spearfish
Dargen, William F.	Sioux Falls
Dawson, Raymond	Clear Lake
Davis, Lawrence	Orient
Day, Kenneth	Lemmon
Decker, Theo.	Huron
De Lap, Bernard	Lake City
De Lap, Kenneth	Lake City
Devine, Wilbur	Cresbard
Doyle, Walter	Bellingham, Minn.
Duncan, George	Flandreau
Dvorak, Joseph	Redfield
Edleman, LeRoy	Bryant
Eide, James A.	Irene
Eide, Nels	Sisseton
Eide, Oscar	Sisseton
Eklund, Harold	DeSmet
Elfrink, Wallace	Platte
Ellison, Elmer	Vermillion
Ennis, Lynne	Stratford
Erickson, Emil	Lane
Erickson, John	Irene
Erling, Velna D.	Raymond

Evans, Morris	Hecla
Forsyth, Harry	Northville
Freitag, Willie	Hitchcock
Fuglsby, Joseph	Sherman
Graves, Oscar	Sherman
Grover, Roy E.	DeGrey
Haberle, Henry	Barnesville, Minn.
Hacecky, Charles	Yankton
Hagenbuch, Carl A.	Three Rivers, Michigan
Hanson, Homer	Centerville
Hanson, Jorgen	Viborg
Harden, Gurland	Lane
Harris, Harold	Plankinton
Harris, Arthur	Plankinton
Hartwick, A. N.	Brookings
Hauffe, Otto	Leola
Holen, Selmer N.	Brandt
Holsworth, Floyd	Willow Lakes
Holsworth, Marian	Willow Lakes
Homan, Frederick	St. Cloud, Minn.
Horacek, Emil F.	Yankton
Huisman, John	Scotland
Huke, Oscar	Naples
James, David	Houghton
Janousek, Chas. J.	Hamil
Johnson, Oswald	Chester
Kaser, Anton	Yankton
Keck, Almer	Brookings
Kelley, Vincent L.	Sioux Falls
Kietzke, Franklin	Hitchcock
Kirby, Lawrence	Wessington Springs
Koenig, Hayse A.	Tyndall
Kohlrusch, Harry E.	Hazel
Larson, Nels	Brandt
Leber, Joseph J.	Parker
Leer, Norman	Vermillion
Lester, Henry I.	Vermillion
Lohr, Richard	Estelline
Loomis, Victor E.	Raymond
Lynch, Orley	Academy
Michelson, Albert	Canton
Misson, Fred	Neché, N. D.
McLain, Harold	Bryant
Mortensen, Harold	Bruce
Moyle, Harold	Westport
Muhlhausen, Adolph	Flandreau

Fullen, Donald	Plankinton
Gielsen, John	Brookings
Gilson, Hans	Canton
Godeen, Philip	Beresford
Gilbertson, Elmer	Beresford
Palmer, Chas.	Orient
Palmer, Richard	Grindstone
Garker, Elmer A.	Eagle Butte
Gease, Lester	Brookings
Gederson, William	Litchfield, Minn.
Gehl, Alvin L.	Chicago, Ill.
Gipal, Benjamin	Academy
Griest, Lloyd	White Owl
Giebers, Ernest	Woodlake, Minn.
Gieinholt, Carl	Irene
Glyder, Gordon E.	Watertown
Gavage, Iral	Watertown
Ghervem, Olaf	Presho
Ghott, Edward I.	Yankton
Geverson, Clarence	Gary
Ghea, Peter	Butte, Mont.
Ghoen, Earl	Forsyth, Mont.
Gmith, Darwin	Sioux Falls
Gtarkey, Elmer	Lane
Gtarr, Herbert	Mitchell
Gtensaas, Arnold	Vermillion
Gtewart, Earl	Wentworth
Gvoboda, Chas.	Iroquois
Gwainson, Edward	Watertown
Gwenson, Carl	Brandon
Gteply, William	Geddes
Gtестerman, Edgar	Jefferson, N. C.
Gtripp, John R.	DeSmet
Gturner, Othiol	Glenham
Gtecker, Willie	Delmont
Gtlickson, Theo.	Canton
Gvalker, Frank	Sansarc
Gvarriner, Chas.	Stickney
Gvilliams, John	Wessington
Gvolff, Carl G.	Belle Fourche
Gvortman, Ed	Orient
Gttreness, Joseph	Beresford

CREAMERY STUDENTS

Austad, Albert	Rushford, Minn
Bartolome, Robert P.	Elkto
Blomberg, William	Astor
Bruner, Keith	Tam
Hopkins, Otis	Cottonwoo
Jindra, James	Albe
Laible, George G.	Stuart, Neb
Lucas, Alfred	Howar
Lunde, Knute	Toront
Martin, John	Bruc
Melin, John N.	Harris, Minn
Ritter, George	Oacom
Wachtler, Lawrence	Ede

SUMMER SESSION

1919

Allison, Jennie	Whi
Anderson, Arthur	Brookin
Aney, Roy	Peev
Artus, Birdle	Clear Lal
Babb, Elizabeth	Wilm
Baird, Marguerite	Gettysbu
Beals, Clara R.	Brookin
Bedessen, Florence	Brookin
Belk, Vida M.	Hen
Bell, Helen	Castlewo
Bergeim, Frank	Brookin
Biggar, George	Brookin
Bjorkman, Minnie F.	Haz
Bogema, Alma	Franklin, Min
Brown, Elizabeth	Brookin
Browning, Albert N.	Belvidere, I
Bulger, Jacob	Whi
Callahan, Anna	De Sm
Caldwell, Alyce	Brookin
Caldwell, Ruth	Brookin
Carlisle, Martin	Brookin
Carson, Donald	Brad
Christopherson, Viola	Brookin
Christopherson, Vivian	Brookin
Clark, Velda	Wessington Sprin
Collins, Gertrude	DeSmt
Cook, Orlan	Clear La

Opplan, Pauline	Grover
Otton, Ruby	Arlington
Oulson, A. A.	DeSmet
Owford, Lizzie	DeSmet
Owford, Neva	DeSmet
Oaker, Mildred	Houghton
Oalthorp, Charles	Volga
Oanielson, Percy	Hendricks, Minn.
Oelker, S. F.	Cresbard
Oenevan, Irene	DeSmet
Oresser, Bernice	Morgan, Minn.
Orew, Letta C.	Brookings
Orew, Lotta M.	Brookings
Oriver, Marion	DeSmet
Ollsworth, Frances	Lake Norden
Orie, Frances	Brookings
Oates, Edgar	Brookings
Oorton, Mabel	White
Oould, Lillian	Bryant
Oranell, Katherine	Elkton
Oansen, Bernice	Tracy, Minn.
Oansen, Eva	Brookings
Oansen, Ross P.	Brookings
Oartwick, Albert	Brookings
Oartwick, Lloyd	Brookings
Oarvey, Gertrude	Pierre
Oauck, Louise	Lake Preston
Oays, Leta	Morris, Minn.
Oendrickson, Bertha	Brookings
Ourlocker, Helen	Sacred Heart, Minn.
Outchindorf, Ruth	Brookings
Outton, Helma	Brookings
Oyde, Hallie	Brookings
Oce, Mrs. Fay	St. Lawrence
Overson, Berthine	Toronto
Overson, Sophia	Toronto
Oohnson, Margaret	Hendricks, Minn.
Oohnson, Vera M.	Balaton, Minn.
Oudd, Laura	Bushnell
Oast, Ada	Brookings
Oelley, Ethel	Tracy, Minn.
Oing, Hattie	Wilmot
Ooehn, Alice	Elkton
Ooehn, Eugenie	Elkton
Oonold, Gladys	Clear Lake
Oorte, Caroline	Brookings
Ouhnert, Elsie	Willow Lakes

Ladd, Leonard L.	Brookings
Lambe, Matilda	Brookings
McGill, Emily	Brookings
Martin, Lester	Brookings
Mates, Ethel	DeSme
Mathews, Zoa	Brookings
Mathiesen, Homer	Watertown
Meagham, Mae	Estelline
Merriman, Lucy	Brookings
Metz, May	Miranda
Moore, Mildred	DeSme
Mulquin, Mary	Bushnell
Myres, Jessie	DeSme
Nelson, Ineta	Dell Rapid
Nelson, Laura	Lake Preston
Norman, Rose	Brookings
Pitcher, Lillian	Orient
Prentice, Frances	Brookings
Rasmussen, Ida	Lake Preston
Reeves, Alta	St. Lawrence
Reeves, Frances	St. Lawrence
Rilling, Elsie	Brookings
Robinson, Edna	Redfield
Rohrbach, L. Grace	Clarke
Rovainen, Helen	Franklin, Minn.
Sacre, Carl	Brookings
Sculley, Jesse	Brookings
Seipp, Lela	Lake Preston
Shaffer, Hortense	Chicago, Ill.
Shearer, Frances	DeSme
Sheldon, Rachel	Brookings
Skiff, Hazel	Brookings
Sloat, Ora	Gettysburg
Smith, Carleton	Huron
Solem, Lagertha	Brand
Stangeland, Sarah	Kenneth, Minn.
Steptoe, Myrtle	Ree Heights
Steptoe, Ruth	Ree Heights
Sterud, Bertha	Volga
Sterud, Myrtle	Volga
Strum, Arthur	Brookings
Stinehart, Lunetta	Bruc
Sullivan, Rose Mary	Henr
Swift, Cecile	Brookings
Thompson, Lester R.	Artesia
Tiller, Christine	Hendricks, Minn.
Tollefson, Norma	Hendricks, Minn.

Trenner, Ephriam	Cash
Vearrier, Maude	Virgil
Waldron, Rena	Arlington
Whitmus, Walter	Brookings
Wick, Jeanette	Brookings
Wilensky, Abraham	Sioux City, Iowa
Wing, Thelma	Brookings
Wold, Ruth	Brookings
Woodward, Myrtle	Volga
Worden, Viola	Brookings

SUMMARY

1919-1920

	Men	Women	Total	Grand Total
Collegiate—				
Post Graduate	4	...	4	
Seniors	53	28	81	
Juniors	36	20	56	
Sophomores	53	23	76	
Freshmen	130	58	188	
	<hr/>	<hr/>	<hr/>	
Total Collegiate	276	129	405	405
Unclassified	25	29	54	54
Preparatory—				
Fourth Year	14	7	21	
Third Year	7	7	14	
Second Year	50	11	61	
First Year	184	18	202	
	<hr/>	<hr/>	<hr/>	
Total Preparatory	55	32	87	87
School of Agriculture—				
Fourth Year	17	8	25	
Third Year	34	11	45	
Second Year	50	11	61	
First Year	184	18	202	
	<hr/>	<hr/>	<hr/>	
Total School of Agriculture.....	285	48	333	333
Tractor and Auto Mechanics	136	...	136	136
Creamery	13	...	13	13
Summer Session	27	104	131	131
Correspondence	13	33	46	46
	<hr/>	<hr/>	<hr/>	
Grand Totals	830	375	1205	1205
Names Repeated	27	26	53	53
Net Totals	803	349	1152	1152

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Pipe Organ	122	Women's League	26
Political Science	99	Zoology	137
Postal Facilities	24		





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1920/21

South Dakota State College of Agriculture and Mechanic Arts

ANNUAL CATALOG
1920-21
With Announcements for
1921-22

Brookings, South Dakota

The College Bulletin

The South Dakota State College Bulletin is published quarterly by authority of the Regents of Education.

The Bulletin contains information in detail relative to the entrance requirements of the different courses of instruction, the schedules of study, lists of instructors of the institution and its administration, equipment, organizations, publications, funds, students' expenses, scholarships, etc.

The institution includes the following departments of instruction: Agricultural Journalism, Agronomy, Animal Husbandry, Art, Botany and Plant Diseases, Chemistry, Civil Engineering, Commerce, Dairy Husbandry, Education, Electrical Engineering, English, Foreign Languages, History and Political Science, Home Economics, Horticulture and Forestry, Manual Arts, Mathematics, Mechanical Engineering, Military Science, Music, Pharmacy, Physical Education, Physics, Poultry Husbandry, Printing, Veterinary Medicine, Zoology and Entomology, the Preparatory Department, the School of Agriculture and the Tractor and Auto-Mechanics School.

In addition to the instructional work the Agricultural Experiment Station and the Agricultural Extension Division are maintained at the College.

The College bulletins are sent free, postage paid, on request. The request should indicate the department concerning which information is desired.

For bulletins and other information address the Registrar, State College, Brookings, South Dakota.

Volume XIII

April, 1921

Number IV

South Dakota State College
of Agriculture and
Mechanic Arts

Annual Catalog
1920-21

With Announcements for
1921-22

Published Quarterly by
THE SOUTH DAKOTA STATE COLLEGE
Brookings, South Dakota

Entered as second-class matter August 10, 1908, at the postoffice at
Brookings, South Dakota

CALENDAR

June 1921								January 1922							
S	M	T	W	T	F	S		S	M	T	W	T	F	S	
5	6	7	8	9	10	11		1	2	3	4	5	6	7	
12	13	14	15	16	17	18		8	9	10	11	12	13	14	
19	20	21	22	23	24	25		15	16	17	18	19	20	21	
26	Summer School Begins							22	23	24	25	26	27	28	

July 1921								February 1922							
					1	2						1	2	3	4
3	4	5	6	7	8	9		5	6	7	8	9	10	11	
10	11	12	13	14	15	16		12	13	14	15	16	17	18	
17	18	19	20	21	22	23		19	20	21	22	23	24	25	
24	25	26	27	28	29	30		26	27	28					
31															

August 1921								March 1922							
	1	2	3	4	5	6					1	2	3	4	
7	8	9	10	11	12	13		5	6	7	8	9	10	11	
14	15	16	17	18	19	20		12	13	14	15	16	17	18	
21	22	23	24	25	26	27		19	20	21	22	23	24	25	
28	29	30	31					26	27	28	29	30	31		

September 1921								April 1922							
				1	2	3									1
4	5	6	7	8	9	10		2	3	4	5	6	7	8	
11	12	13	14	15	16	17		9	10	11	12	13	14	15	
18	19	20	21	22	23	24		16	17	18	19	20	21	22	
25	26	27	28	29	30			23	24	25	26	27	28	29	
								30							

October 1921								May 1922							
						1			1	2	3	4	5	6	
2	3	4	5	6	7	8		7	8	9	10	11	12	13	
9	10	11	12	13	14	15		14	15	16	17	18	19	20	
16	17	18	19	20	21	22		21	22	23	24	25	26	27	
23	24	25	26	27	28	29		28	29	30	31				
30	31														

November 1921								June 1922							
		1	2	3	4	5					1	2	3		
6	7	8	9	10	11	12		4	5	6	7	8	9	10	
13	14	15	16	17	18	19		11	12	13	14	15	16	17	
20	21	22	23	24	25	26		18	19	20	21	22	23	24	
27	28	29	30					25	Summer School Begins						

December 1921								July 1922							
				1	2	3								1	
4	5	6	7	8	9	10		2	3	4	5	6	7	8	
11	12	13	14	15	16	17		9	10	11	12	13	14	15	
18	19	20	21	22	23	24		16	17	18	19	20	21	22	
25	26	27	28	29	30	31		23	24	25	26	27	28	29	
								30	31						

Announcements

1921

SUMMER TERM

June 27, Monday—Summer School begins.

August 5, Friday—Summer School ends.

1921

FALL TERM

September 26-27, Monday, Tuesday—Entrance examinations and registration by students of the Collegiate Courses, the Preparatory Department, and the Auto-Tractor School.

September 28, Wednesday—Class work begins at 8 a. m.

October 31, Monday—Enrollment in the School of Agriculture.

November 11, Friday—Armistice Day—a holiday.

November 24, Thursday—Thanksgiving Day—a holiday.

December 21, Wednesday—Work of Fall Term closes at 4:15 p. m.

1922

WINTER TERM

January 3, Tuesday—Registration for Winter Term by students of the Collegiate Courses, the Preparatory Department, the Auto-Tractor School, and the Three Months Creamery Course.

January 4, Wednesday—Work of Winter Term begins at 8 a. m.

February 22, Wednesday—Washington's Birthday—special exercises.

March 21, Tuesday—Commencement exercises of the School of Agriculture at 10:30 a. m.

March 22, Wednesday—Work of Winter Term and School of Agriculture closes at 4:15 p. m.

March 24-25, Friday, Saturday—Spring Recess.

1922

SPRING TERM

March 27, 28, Monday, Tuesday—Registration for Spring Term by students of the Collegiate Courses, the Preparatory Department, and the Auto-Tractor School.

March 29, Wednesday—Work of Spring Term begins at 8 a. m.

May 30, Tuesday—Memorial Day—a holiday.

June 11, Sunday—Baccalaureate Services at 10:30 a. m.

June 12, Monday—Thirty-sixth Annual Commencement at 10:30 a. m.

June 15, Thursday—Spring Term closes at 4:15 p. m.

REGENTS OF EDUCATION

Hon. T. W. Dwight	-	-	-	-	-	Sioux Falls
Term expires January 1, 1927						
Hon. August Frieberg	-	-	-	-	-	Beresford
Term expires January 1, 1925						
Hon. F. A. Spafford, M. D.	-	-	-	-	-	Flandreau
Term expires January 1, 1925						
Hon. J. O. Johnson	-	-	-	-	-	Watertown
Term expires January 1, 1923						
Hon. Alvin Waggoner	-	-	-	-	-	Philip
Term expires January 1, 1927						

Officers of the Board

Hon. T. W. Dwight	-	-	-	-	-	President
Helen Gamble	-	-	-	-	-	Secretary
Hon. G. H. Helgersen (State Treasurer)	-	-				Treasurer

Regents' Committee for the College

Hon. J. O. Johnson, Chairman

Hon. T. W. Dwight

College Staff

Officers of Administration

WILLIS E. JOHNSON, Ph. D., LL. D.
President

GEORGE LINCOLN BROWN, Ph. D.
Vice President; Dean of the Faculty

HUBERT BERTON MATHEWS, M. S.
Vice Dean of the Faculty; Director of the Summer School

RACHEL KNIGHT, Ph. D.
Dean of Women

R. A. LARSON
Secretary of the College

JAMES W. WILSON, M. S. A.
Director of the Experiment Station

NIELS E. HANSEN, M. S., Sc. D.
Vice Director of the Experiment Station

†CHRISTIAN LARSEN, M. S. A.
Director of Agricultural Extension

‡W. F. KUMLIEN, A. B.
Acting Director of Agricultural Extension

ALBERT NASH HUME, M. S., Ph. D.
Superintendent of Substations; Director of State Soil Survey

GEORGE C. PHILLIPS, B. S., E. E.
Registrar

§OMAR NELSON BRADLEY, Captain, U. S. A.
Commandant, Reserve Officers' Training Corps

*J. A. VAN FLEET, Major, U. S. A.
Professor of Military Science and Tactics

**W. P. WALTZ, Captain, U. S. A.
Commandant, Reserve Officers' Training Corps

MARJORIE GRISWOLD
Matron

† Given leave of absence, December 19, 1920.

‡ Present title since December 19, 1920.

§ Transferred to West Point, September 1, 1920.

* Assigned duty Feb. 8, 1921.

** In charge of department of Military Science and Tactics, October 30, 1920 to Feb. 8, 1921.

DIVISION OF INSTRUCTION

The number after each name indicates the beginning of the present period of service in the college.

WILLIS E. JOHNSON, 1919, President.

Ph. B., M. A., Illinois Wesleyan University; B. A., M. A., Ph. D., University of Minnesota; LL. D., Dakota Wesleyan University.

GEORGE LINCOLN BROWN, 1897, Vice President; Dean of the Faculty; Professor of Mathematics.

B. S., M. S., University of Missouri; Ph. D., University of Chicago.

HUBERT BERTON MATHEWS, 1892, Vice Dean of the Faculty; Director of the Summer School; Professor of Physics.

B. S., M. S., South Dakota State College.

FREEMAN ANDREWS, 1918, Instructor in Forging.

KATHERINE ASBAHR, 1921, Instructor in the School of Agriculture.

B. S., Oregon Agricultural College.

RICHARD N. AXFORD, 1920, Instructor in the School of Agriculture.

A. B., University of Wisconsin.

ELSIE BALL, 1920, Public School Music (Summer Session).

HOPE BARTHOLOMEW, 1920, Drawing and Industrial Art (Summer Session).

W. P. BEARD, 1920, Agricultural Education (Summer Session).

B. S., Iowa State College.

†D. BENGE, 1919, Assistant to the Professor of Military Science and Tactics.

Sergeant, United States Army.

EDWARD R. BINNEWIES, 1913, Associate Professor of Chemistry.

B. S., M. S., South Dakota State College.

JOHN A. BONELL, 1910, Assistant Professor of Mechanical Engineering. Graduate Stout Institute.

BYRON BRIGGS BRACKETT, 1909, Professor of Electrical Engineering.

A. B., A. M., Syracuse University; Ph. D., Johns Hopkins University.

‡OMAR NELSON BRADLEY, Commandant, Professor of Military Science and Tactics.

Captain, U. S. A.; Graduate U. S. Military Academy, West Point.

† Detailed from the College by War Department, January 1, 1921.

‡ Transferred to West Point, September 1, 1920.

- W. H. BURR, 1920, Vitalized Agriculture (Summer Session).
- ALFRED L. BUSHEY, 1919, Assistant Professor of Agronomy.
B. S., South Dakota State College; M. S., Purdue University.
- ADA B. CALDWELL, 1899, Professor of Industrial Art.
- CARL CHRISTENSEN, 1906, Professor of Music.
- ANNE COUGHLAN, 1920, Instructor in Violin.
Mus. B., American Conservatory of Music.
- A. A. COULSON, 1919, Common School Branches (Summer Session).
B. A., Yankton College.
- ALEXANDER F. CULHANE, 1919, Instructor in Dairy Husbandry.
B. S., South Dakota State College.
- B. A. DUNBAR, 1911, Professor of Chemistry; Chemist, Experiment Station.
A. B., A. M., Ohio Wesleyan University.
- ARTHUR T. EVANS, 1920, Associate Professor of Agronomy.
A. B., University of Illinois; M. A., University of Colorado; Ph. D., University of Chicago.
- DONALD C. FARLEY, 1920, Instructor in Chemistry.
B. S., Hamline University.
- MARION FEZER, 1920, Assistant Professor of Physical Training.
A. B., Colorado College; M. A., Columbia University.
- ROBERT BLACKWOOD FORSEE, 1901, Principal of the Preparatory Department.
Principal of Pedagogy, Western College (Missouri).
- MATTHEW FOWLDS, 1913, Instructor in Agronomy; Assistant in Crops, Experiment Station.
B. S., South Dakota State College.
- R. W. FREY, 1921, Instructor in Military Science and Tactics.
Sergeant, United States Army.
- URSULA T. GERNON, 1920, Instructor in Art.
Graduate Art Institute, Chicago.
- GEORGE GILBERTSON, 1914, Assistant Professor of Entomology; Assistant State Entomologist; Assistant Entomologist, Experiment Station.
B. S., M. S., South Dakota State College.
- S. S. GOSSMAN, 1920, Instructor in Poultry Husbandry.
B. S., Oregon Agricultural College.

- CHESNEY O. GOTTSCHALK, 1920, Assistant Professor of Mechanical Engineering.
Graduate Stout Institute.
- ARLEIGH C. GRIFFIN, 1920, Professor of Education; Principal of the School of Agriculture.
B. S., B. A., Berea College; M. A., University of Chicago.
- C. D. GRINNELLS, 1920, Assistant Professor of Animal Husbandry.
D. V. M., Cornell University; B. S., University of Minnesota.
- NIELS EBBESEN HANSEN, 1895, Professor of Horticulture and Forestry; Vice Director and Horticulturist of the Experiment Station.
B. S., M. S., Iowa Agricultural College; Sc. D., University of South Dakota.
- ALBERT SPENCER HARDING, 1897, Professor of History and Political Science.
B. S., South Dakota State College; A. M., University of Nebraska.
- †E. B. HARDING, 1921, Instructor in Linotype.
- EDMOND E. HARTNETT, 1920, Assistant Professor of Industrial Arts.
Pd. B., Central Missouri State Teachers' College; B. S., M. A., Columbia University.
- ANTON HOGSTAD, Jr., 1917, Assistant Professor of Pharmacy.
P. C., Philadelphia College of Pharmacy; B. S., South Dakota State College.
- ELMER J. HOLSTAD, 1919, Shorthand and Typewriting (Summer Session).
- KENNETH HOOD, 1920, Zoology (Summer Session).
B. S., South Dakota State College.
- HOWARD H. HOY, 1899, Associate Professor of Physics and Mechanical Engineering.
B. S., M. S., South Dakota State College.
- ALBERT NASH HUME, 1911, Professor of Agronomy; Superintendent of Substations; Agronomist, Experiment Station; Director of State Soil Survey.
B. S. A., M. S., Purdue University; Ph. D., Goettingen University.
- JOSEPH GLADDEN HUTTON, 1911, Associate Professor of Agronomy; Associate Agronomist, Experiment Station; Assistant Director of State Soil Survey.
B. S., University of Chicago; M. S., University of Illinois.

† Since February 1, 1921.

- ARTHUR M. JOHNSON, 1919, Instructor in Music.
- B. L. JOHNSON, 1918, Assistant in Dairy Husbandry.
B. S., Massachusetts State Agricultural College.
- C. PEARL JOHNSON, 1920, Instructor in Voice.
B. A., University of Minnesota.
- S. W. JOHNSON, 1919, Education (Summer Session).
B. A., M. A., University of Iowa.
- C. B. KAERCHER, 1921, Coordinator, Vocational Rehabilitation.
B. S., University of Minnesota.
(Detailed by the Federal Vocational Board.)
- NELLIE J. KENDALL, 1912, Instructor in English.
B. S., South Dakota State College.
- PAUL W. KIESER, 1920, Professor of Journalism; Agricultural Editor.
- LOUISA ELIZABETH KIRK, 1919, Instructor in Home Economics.
B. S., South Dakota State College.
- RACHEL KNIGHT, 1920, Dean of Women; Professor of Psychology.
B. L., M. A., Swarthmore College; Ph. D., University of Iowa.
- ARTHUR HENRY KUHLMAN, 1918, Associate Professor of Animal Husbandry; Associate Animal Husbandman, Experiment Station.
B. S., M. S., University of Wisconsin.
- †CHRISTIAN LARSEN, 1907, Professor of Dairy Husbandry; Director of the Agricultural Extension Division; Dairy Husbandman, Experiment Station.
B. S. A., M. S. A., Iowa State College.
- LOUISE LOCKERBY LEATON, 1916, Assistant Professor of Home Economics.
B. S., Illinois Wesleyan University.
- CHARLES CLINTON LIPP, 1913, Professor of Veterinary Medicine; Consulting Veterinarian, Experiment Station; Director of the Animal Health Laboratory.
D. V. M., Ohio State University.
- LAURA J. McARTHUR, 1920, Assistant Professor of Home Economics.
B. S., University of Minnesota.
- FRANK E. McCALL, 1916, Associate Professor of Horticulture; Extension Specialist in Horticulture.
B. S., Iowa State College.

† Given leave of absence, December 19, 1920.

- GEORGE W. McCARTY, 1920, Assistant Professor of English.
B. A., University of Indiana; M. A., Columbia University.
- ADA McCORDIC, 1918, Assistant Professor of Mathematics.
A. B., Zion College; A. M., University of Wisconsin.
- GERTRUDE McKNIGHT, 1915, Instructor in the School of Agriculture.
- JOSEPH A. MACHLIS, 1919, Assistant in Agronomy in Connection with
the State Soil Survey.
B. S., University of Wisconsin.
- EDGAR GEORGE MEINZER, 1919, Associate Professor of English.
A. B., A. M., Beloit College.
- CARL S. METZGER, 1919, Adviser of Men.
A. B., University of Michigan.
- I. L. MILLER, 1920, Associate Professor of Mathematics.
A. B., A. M., University of Indiana.
- JANE MULLENBACH, 1920, Associate Professor of English. Acting
Head of the department.
A. B., University of Michigan; A. M., University of Chicago.
- THOMAS M. OLSON, 1920, Instructor in Dairy Husbandry.
B. S. A., University of Wisconsin; M. S. A., University of Iowa.
- EARL C. O'ROKE, 1920, Assistant Professor of Zoology.
A. B., M. A., University of Kansas.
- EUNICE M. PEARSON, 1920, Instructor in the School of Agriculture.
A. B., Berea College.
- W. ALBERT PETERSON, 1912, Associate Professor of Music.
Mus. Bac., American Conservatory of Music.
- E. J. PETRY, 1920, Professor of Botany and Plant Pathology.
B. S., Ohio State University; M. S., Purdue University; Ph. D.,
University of Michigan.
- GEORGE C. PHILLIPS, 1918, Registrar; Assistant Professor of Elec-
trical Engineering.
B. S., E. E., South Dakota State College.
- EDITH PIERSON, 1919, Professor of Home Economics.
B. S., Lewis Institute.
- WILLIAM HOWARD POWERS, 1905, Librarian; Associate Professor of
English.
A. B., Miami University; A. M., Harvard University.

- ELLSWORTH O. PRATHER, 1919, Professor of Commercial Science.
A. B., Austin College; M. Accts., Gem City Business College.
- MARCIA PROSSER, 1920, College Nurse.
R. N., Bishop Clarkson Hospital (Omaha).
- PHYLLIS REID, 1920, Critic Teacher, Home Economics.
B. S., South Dakota State College.
- HAZEL E. RINK, 1920, Instructor in Piano.
Studied at Cincinnati Conservatory of Music.
- ELLA RUEBHAUSEN, 1920, Professor of Modern Languages.
B. S., University of Wisconsin; Ph. D., University of Chicago.
- †ALBERT E. SENN, 1920, Assistant in Printing.
- EARL R. SERLES, 1915, Professor of Pharmacy.
Ph. G., B. S., M. S., South Dakota State College.
- HARRY C. SEVERIN, 1909, Professor of Zoology and Entomology; Entomologist, Experiment Station; State Entomologist.
A. B., University of Wisconsin; A. M., Ohio State University.
- CARLTON SHERWOOD, 1919, Instructor in the School of Agriculture.
A. B., University of South Dakota.
- EARL E. SHOEN, 1920, Assistant in Forging and Acetylene Welding.
- MRS. LOTTIE R. SMITH, 1920, Home Economics (Summer Session).
B. S., M. S., Oregon Agricultural College.
- DAVID L. SNADER, 1919, Professor of Civil Engineering.
C. E., M. S., Ohio Northern University.
- HALVOR C. SOLBERG, 1891, Professor of Mechanical and Steam Engineering.
B. S., South Dakota State College; B. M. E., M. E., Purdue University.
- GUY P. SQUIRE, 1920, Counselor, Vocational Rehabilitation.
- MRS. HARRIET STEERE, 1919, Primary Methods (Summer School).
B. A., University of Wisconsin.
- GEORGE LEIGH STEVENSON, 1919, Professor of Poultry Husbandry.
B. S., Colgate University; B. S. A., Cornell University.
- J. B. TAYLOR, 1920, Instructor in Veterinary Science and Bacteriology.
V. M. D., University of Pennsylvania.

† Resigned January 15, 1921.

MAUDE UMMEL, 1920, Instructor in Commercial Science.

B. S., State Teachers' College (Maryville, Missouri).

SETH THORNTON, 1920, Superintendent of Printing Plant; Instructor in Printing Trades.

†J. A. VAN FLEET, 1921, Professor of Military Science and Tactics.

Graduate United States Military Academy; Major, U. S. A.

‡W. P. WALTZ, 1920, Commandant Reserve Officers' Training Corps.

Captain, U. S. A.

CLYDE T. WALTER, 1920, Assistant Professor of Chemistry.

B. S., Ottawa University; M. A., Missouri University.

GRACE E. WASSON, 1920, Instructor in Home Economics.

Ph. B., University of Chicago.

CLARENCE FLOY WELLS, 1919, Instructor in Chemistry; Assistant Station Chemist.

A. B., M. S., West Virginia University.

C. A. WEST, 1919, Professor of Physical Education.

B. S., Coe College.

MALCOLM WHITE, 1918, Mathematics (Summer Session).

B. S., South Dakota State College.

MAUDE WHITEHEAD, 1920, Vitalized Agriculture (Summer Session).

HAZEL M. WILLIS, 1919, Associate Professor of Art.

B. S., Columbia University.

JAMES WILBUR WILSON, 1902, Professor of Animal Husbandry; Director and Animal Husbandman of the Experiment Station.

B. S. A., M. S. A., Iowa State College.

CLINTON R. WISEMAN, 1918, Assistant Professor of Vocational Education, in charge of Agricultural Education; State Director of Vocational Education.

B. S., University of Wisconsin.

THOMAS H. WRIGHT, Jr., 1917, Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman and Bacteriologist, Experiment Station.

B. S., Iowa State College.

GERTRUDE S. YOUNG, 1907, Assistant Professor of History and English.

A. B., University of Wisconsin.

† Assigned duty Feb. 8, 1921.

‡ Assigned duty, October 30, 1920.

STUDENT ASSISTANTS

- MARCUS CHASE, Assistant in Botany.
ELIZABETH CHASE, History (Summer Session).
B. S., South Dakota State College.
ELMER CRAM, Assistant in Industrial Arts.
EMMETT DYE, Assistant in Civil Engineering.
A. J. EMLY, Assistant in Vocational Rehabilitation.
ERWIN HAAHR, Assistant in Civil Engineering.
GEORGE JANSSEN, Assistant in Agronomy.
ANNA JESPERSON, Assistant in Commerce.
PALMER JOHNSON, Assistant in Civil Engineering
LEONARD LADD, Animal Husbandry (Summer Session).
B. S., South Dakota State College.
LORENZ LIPPERT, Assistant in School of Agriculture.
ERMA PEPPE, Assistant in Mathematics.
PEARL PRATT, Assistant in School of Agriculture.
CARL ROTTLUFF, Assistant in Pharmacy.
ELIZABETH SOLBERG, Assistant in School of Agriculture.
THOMAS STREET, Assistant in Entomology (Summer Session).
ALMA THOMAS, Assistant Librarian.
-

AGRICULTURAL EXPERIMENT STATION STAFF
AND ASSISTANTS

- WILLIS E. JOHNSON, Ph. D., LL. D., President.
JAMES WILBUR WILSON, 1902, Director and Animal Husbandman;
Professor of Animal Husbandry, Instructional Division.
B. S. A., M. S. A., Iowa State College.
NIELS E. HANSEN, 1895, Vice Director and Horticulturist; Professor
of Horticulture and Forestry, Instructional Division.
B. S., M. S., Iowa State College; Sc. D., University of South Da-
kota.
ALFRED L. BUSHEY, 1919, Assistant and Analyst in Agronomy; As-
sistant Professor of Agronomy, Instructional Division.
B. S., South Dakota State College; M. S., Purdue University.
B. A. DUNBAR, 1911, Consulting Chemist, Experiment Station; Profes-
sor of Chemistry, Instructional Division.
A. B., M. A., Ohio Wesleyan University.

ARTHUR T. EVANS, 1920, Assistant Agronomist; Associate Professor of Agronomy, Instructional Division.

A. B., University of Illinois; M. A., University of Colorado; Ph. D., University of Chicago.

MATTHEW FOWLDS, 1913, Assistant in Crops; Assistant in Agronomy, Instructional Division.

B. S., South Dakota State College.

GEORGE GILBERTSON, 1914, Assistant Entomologist, Experiment Station; Assistant Professor of Entomology, Instructional Division; Assistant State Entomologist.

B. S., M. S., South Dakota State College.

ALBERT NASH HUME, 1911, Agronomist and Superintendent of Substations; Professor of Agronomy, Industrial division.

B. S. A., M. S., Purdue University; Ph. D., Goettingen University.

JOSEPH GLADDEN HUTTON, 1911, Assistant Agronomist; Associate Professor of Agronomy, Instructional Division.

B. S., University of Chicago; M. S., University of Illinois.

B. L. JOHNSON, 1918, Dairy Analyst.

B. S., Massachusetts Agricultural College.

PAUL W. KIESER, 1920, Agricultural Editor; Professor of Journalism, Instructional Division; Editor of Bulletins for College, Experiment Station, and Agricultural Extension.

ARTHUR H. KUHLMAN, 1918, Associate Animal Husbandman; Associate Professor of Animal Husbandry, Instructional Division.

B. S., M. S., University of Wisconsin.

CHARLES C. LIPP, 1913, Consulting Veterinarian, Experiment Station; Professor of Veterinary Medicine, Instructional Division; Director of the Animal Health Laboratory.

D. V. M., Ohio State University.

THOMAS M. OLSON, 1920, Assistant Dairy Husbandman; Instructor in Dairy Husbandry, Instructional Division.

B. S. A., University of Wisconsin; M. S. A., Iowa State College.

H. C. SEVERIN, 1909, Entomologist; Professor of Entomology and Nature Study, Instructional Division; State Entomologist.

A. B., University of Wisconsin; M. A., Ohio State University.

CLARENCE F. WELLS, 1919, Assistant Chemist; Instructor in Chemistry, Instructional Division.

A. B., M. S., West Virginia University.

THOMAS H. WRIGHT, Jr., 1917, Assistant Dairy Husbandman and Dairy Bacteriologist; Assistant Professor of Dairy Husbandry, Instructional Division.
B. S., Iowa State College.

DIVISION OF AGRICULTURAL EXTENSION

WILLIS E. JOHNSON, 1919, Ph. D., LL. D., President.

†CHRISTIAN LARSEN, 1907, Director of the Extension Division; Professor of Dairy Husbandry, Instructional Division; Dairy Husbandman, Experiment Station.
B. S. A., M. S. A., Iowa State College.

W. F. KUMLIEN, 1917, County Agent Leader; Acting Director of Extension after January 1, 1921.
B. A., Lawrence College.

PAUL P. BANKER, 1920, Assistant State Club Leader.
B. S., University of Wisconsin.

MURRAY REED BENEDICT, 1919, Farm Management Demonstrator.
B. S., University of Wisconsin.

‡H. J. BOYTS, 1918, Assistant County Agent Leader.
B. S., Iowa State College.

§MANLEY CHAMPLIN, 1911, Extension Specialist in Soils and Crops.
B. S., M. S., South Dakota State College.

H. E. DAWES, 1916, Leader of Short Courses and Correspondence Courses.
B. S., M. A., Northwestern Normal.

A. L. FORD, 1920, Extension Specialist in Entomology.
B. S., M. S., Kansas Agricultural College.

HENRY C. GILBERT, 1918, Assistant State Leader of Barberry Eradication.
B. S., M. S., Oregon Agricultural College.
(Detailed by the U. S. Department of Agriculture.)

E. W. HALL, 1914, County Agent Leader.
B. S., University of Wisconsin.

† Given leave of absence December 19, 1920.

‡ Resigned December 15, 1920.

§ Resigned August 31, 1920.

- J. C. HOLMES, 1919, Extension Specialist in Livestock.
B. S. Kansas Agricultural College.
- R. E. JOHNSTON, 1916, Extension Specialist in Soils and Crops.
B. S., South Dakota State College.
- P. W. KIESER, 1920, Agricultural Editor; Professor of Journalism, Instructional Division; Editor of bulletins for College, Experiment Station and Extension Division.
- MAY KIETHLINE, 1918, Assistant State Club Leader.
- F. E. McCALL, 1916, Extension Specialist in Horticulture; Associate Professor of Horticulture, Instructional Division.
B. S., Iowa State College.
- R. L. PATTY, 1916, Extension Specialist in Agricultural Engineering.
B. Di., Iowa Teachers' College; B. S. in Agricultural Engineering, Iowa State College.
- SELMA RONGSTAD, 1918, State Home Demonstration Leader.
- PAUL J. SCARBRO, 1918, State Club Leader.
A. B., Highland Park College; B. Di., Iowa State Teachers' College.
- C. L. STARR, 1920, Assistant County Agent Leader.
- †W. W. UNDERWOOD, 1916, Assistant County Agent Leader.
B. S. F., University of Minnesota.
- GEORGE H. VALENTINE, 1920, Assistant State Club Leader.
B. S., South Dakota State College.
- GILBERT S. WEAVER, 1917, Extension Specialist in Animal Diseases.
V. S., Ohio State University.

† Resigned October 31, 1920.

COUNTY AGRICULTURAL AGENTS

County	Name	Address
BEADLE	Dick Lewallen	Huron
BROOKINGS	H. J. Boyts (after Dec. 15)	Brookings
BROWN	W. C. Boardman	Aberdeen
BUTTE	A. D. Ellison	Belle Fourche
CAMPBELL & McPHERSON	W. F. Broich (after Oct. 1)	Eureka
CLARK	A. J. Dexter	Clark
CLAY	W. D. Griggs	Vermillion
CODINGTON	L. V. Ausman	Watertown

COLLEGE STAFF

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CORSON	O. M. Osborne	McIntosh
DAY	John A. Gunning	Webster
DEUEL	D. C. Jones (to Aug. 1)	Clear Lake
DEWEY	Oscar Hermstad	Timber Lake
DOUGLAS	J. M. Brander	Armour
EDMUNDS	Deane G. Davis	Ipswich
FALL RIVER	Sam L. Sloan	Hot Springs
FAULK	C. J. Gilbert	Faulton
GRANT	H. M. Swift	Milbank
HAAKON	H. M. Sanderson	Philip
HAMLIN	A. W. Tompkins	Hayti
HAND	E. H. Aicher	Miller
HUGHES	N. F. Nelson	Pierre
JACKSON	Ira S. Johnson	Kadoka
JERAULD	H. E. Rilling (to Nov. 1)	Wessington Springs
JONES	W. P. Gamble	Murdo
KINGSBURY	D. C. Jones (after Aug. 1)	DeSmet
LAKE	M. H. Shearer	Madison
LAWRENCE	Evan W. Hall	Spearfish
LYMAN	H. D. McCullough	Kennebec
McCOOK	George L. Winright	Salem
MELLETTE	F. E. Lange	White River
MINER	R. O. Swanson	Howard
MINNEHAHA	J. H. Hamilton	Sioux Falls
MOODY	H. B. Wilson	Flandreau
PENNINGTON	H. W. Smith	Rapid City
ROBERTS	R. R. Buchanan	Sisseton
SPINK	E. W. Hall (to Jan. 1)	Redfield
STANLEY	E. C. Anderson	Ft. Pierre
SULLY	L. M. Woodruff	Onida
TURNER	O. B. Dunbier (to Nov. 1)	Parker
TURNER	R. E. Smith (after Nov. 1)	Parker
UNION	A. L. Haynes (to Aug. 1)	Elk Point
UNION	H. M. Jones (after Aug. 15)	Elk Point
WALWORTH	Omer Mills	Selby
YANKTON	C. A. Oppel (to Aug. 1)	Yankton
YANKTON	D. L. Keck (after Aug. 1)	Yankton

HOME DEMONSTRATION AGENTS

BROWN	Edith A. Sloan	Aberdeen
CLARK	Hazel Kent (to Jan. 1)	Clark

COUNTY CLUB LEADERS

DEUEL	A. H. Evans (to Jan. 1)	Clear Lake
GRANT	Gladys Skouge	Milbank
HAAKON	Nellie Petersen	Philip
MINNEHAHA	Eva Bickel	Sioux Falls

DAIRY EXPERT AND ASSISTANTS

A. P. RYGER, 1909, State Dairy Expert.

†EDWARD P. LYNCH, 1919, Assistant Dairy Expert.

B. S., South Dakota State College.

TERRENCE A. MEEHAN, 1918, Assistant Dairy Expert.

RUDLOPH B. BUCHOLZ, 1920, Assistant Dairy Expert.

B. S., South Dakota State College.

JOHN THOMSON, 1920, Assistant Dairy Expert.

HAZEL J. COLEMAN, Secretary to the Dairy Expert.

† Resigned September 1, 1920.

OTHER OFFICERS AND EMPLOYEES

ANNA ANDERSON, Secretary to the Director of Extension.

ANNA CACH, Manager of the College Book Store.

DAVID DONER, Assistant Secretary of the College.

PHILIP W. HANSON, Secretary to the Director of the Experiment Station.

M. B. HINSVARK, Foreman Cottonwood Substation.

P. P. HOFF, Foreman of the Dairy Farm.

JOSEPH HOFFMAN, Foreman Eureka Substation.

ELMER J. HOLSTAD, Secretary to the President.

A. T. LARSON, College Engineer.

ARNE LARSON, Foreman of the Horticulture Farm.

LAWRENCE McGARRY, Foreman of the Agricultural Farm.

GEORGE E. PURDY, Custodian of the Buildings and Grounds.

VIOLA ROBBINS, Recorder.

CHARLES SAYLER, Foreman Vivian Substation.

L. W. SUTTON, Foreman of the Agronomy Farm.

S. W. SUSSEX, Foreman Highmore Substation.

General Information

HISTORICAL SKETCH

Establishment.—An act of the Territorial Legislature, approved February 21, 1881, provided that "an Agricultural College for the territory of Dakota be established at Brookings, * * * provided that a tract of land of not less than eighty acres be secured and donated to the Territory of Dakota."

The Legislature of 1883 provided for the erection of the first building. This building, now known as the Central Building, was opened for use September 24, 1884.

The Enabling Act admitting the State of South Dakota, approved February 22, 1899, provided that 120,000 acres of land be granted for the use and support of the Agricultural College, as provided in the acts of Congress making donations of lands for such purpose. The acts of Congress here referred to are, primarily, the act of July 2, 1862, known as the Morrill Act, providing that 30,000 acres of public land for each representative in Congress be given to each state towards "the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts."

By the Enabling Act of 1889 Congress granted to South Dakota for the Agricultural College 40,000 additional acres, in lieu of a grant that had been made to new states in 1841. Thus the total land grant for the Agricultural College was 160,000 acres.

In the Morrill Act of 1862, such colleges were spoken of as "Colleges of Agriculture and Mechanic Arts." In order that the name might more nearly conform to the object for which the College was established, the Legislature of 1907 changed the name from "The Agricultural College of South Dakota" to "The State College of Agriculture and Mechanic Arts."

The *Experiment Station was organized in 1887, under the Hatch Act of Congress, which provided for the establishment of agricultural experiment stations in connection with agricultural colleges. These stations were established for the purpose of conducting experiments and research work in connection with all branches of the agricultural industries of the United States, due regard being paid to the various conditions and needs of the respective states. It is also their object to aid in diffusing among the people useful and practical information on all subjects connected with agriculture. The South Dakota Station conducts its investigations chiefly along the following lines: Live stock, veterinary science, soils, field experiments, greenhouse work, trees and small fruits, injurious insects, and chemistry of plant growth and foods.

The Division of Agricultural Extension was established to carry to the people of the state the results of the work of the College, and also the approved methods as practiced by the most successful farmers in the different localities. From its earliest history the College has sent out members of its staff to help the people of the state by addressing meetings, acting as judges at fairs and for agricultural clubs, and in various other ways. The College, however, had no money available to conduct such work in a systematic way until 1914, when the Smith-Lever Act was passed by Congress providing \$10,000 annually to each state beginning with July 1, 1914 to be used for agricultural extension work by the State Colleges of Agriculture in cooperation with the United States Department of Agriculture. The act also provides that beginning with July 1, 1915, additional amounts which increase from year to year are to be given to the different states upon the condition that the states appropriate equal amounts to be used in connection with the national fund for the extension work.

Sources of Income.—A joint resolution passed by the Legislature of 1890 accepted the lands granted in the enabling act. These lands were not at once assigned. The Commissioner of Public Lands reported that 64,658 acres had been selected.

*See the index for references to additional information concerning the Agricultural Experiment Station and the Extension Division.

All have since been selected; very few have been sold. A small amount is received yearly as rental. The first income recorded was \$1,197.71, September 1, 1896. No school lands may be sold for less than ten dollars an acre. When all the land is sold it will yield an endowment of approximately three million dollars.

The Morrill Act passed by Congress in 1890 provides a yearly appropriation for "the more complete endowment and support of colleges for the benefit of agriculture and mechanic arts." Under this act the College now receives from the general government the sum of \$25,000 per annum.

An act making appropriation for the Department of Agriculture, approved by Congress March 4, 1907, provides for the future endowment and support of these colleges. The bill, which was introduced by Senator Knute Nelson, of Minnesota, stipulates that the expenditure of the fund shall be governed in all respects by the provisions of the Morrill Act, and also that a portion of the money may be used to provide for the training of instructors in agriculture and mechanic arts. This act made an appropriation of \$5,000 for the year 1907-1908, which increased \$5,000 each year until it reached \$25,000 per annum. The College, therefore, receives \$50,000 annually from the National Government for instructional purposes.

The College also receives aid from the State, biennial appropriations being made by the Legislature for maintenance and buildings.

The Hatch Act provides that the agricultural experiment stations should each receive \$15,000 annually from the National Government. This amount has been increased by the provisions of the Adams Act of 1906, so that the Experiment Station now receives \$30,000 a year for maintenance.

Under the Smith-Lever Act, the College receives \$10,000 annually from the National Government for extension work. Under the same Act during the present year the College will receive \$31,862.24 additional, on the condition that an equal amount is provided by the State to be used with the national fund. The State Legislature appropriated \$49,000 for the

County Supervision Fund in addition to the amount appropriated as the Smith-Lever offset.

LOCATION, BUILDINGS AND EQUIPMENT

The Location.—The college is located upon an eminence one mile from the business center of Brookings, which has a population of about four thousand people. The city is situated on the Central Dakota Division of the Chicago & North-Western Railway, the Watertown branch making connection with the main line at this point.

Few educational institutions are more advantageously located. The campus, lying at the northeast corner of the City of Brookings, is approached by wide streets, now in process of paving, shaded with well grown trees. The lawns of the city are well kept and abound in ornamental plants and shrubs. The houses are nearly all modern in equipment, and many of them are new and most attractive in appearance. City conveniences are provided mostly from municipal plants. There have been no saloons for over thirty years and the city atmosphere is favorable to the establishment and continuance of good habits.

The College Buildings and Grounds.—The college campus upon and about which the college buildings are placed is beautifully located on an eminence within the corporate limits of Brookings. It is ornamented with choice and tasteful varieties of trees and shrubs and laid out with necessary walks and drives. Adjoining on the rear are the horticultural gardens, and to the north, northeast, and northwest are the college farms.

The oldest building on the campus, called the Central Building, was erected in 1884. This and the old North Building are given over to general class room and laboratory purposes.

The other old building, recently known as the Experiment Station Building, has been remodeled and now houses the Extension Division.

The Agricultural and Administration Building provides executive offices, an auditorium, laboratories, class rooms and offices for the various agricultural departments. This building has just been completed with a \$100,000.00 addition in which the Departments of Home Economics, Industrial Arts and Education are located.

The Physics-Engineering Building is occupied by the physics and the engineering departments with their various class rooms, laboratories and shops.

The Plant Breeding Building, together with the large Greenhouse, furnishes room for the work that is being conducted by the departments of horticulture and entomology.

The new Stock Judging Pavilion has a fine amphitheater into which stock used for judging may be brought, thus affording an unobstructed view for every student.

The Chemistry Building, a two-story structure, is occupied by the class rooms and laboratories of this department.

The Creamery is a two-story building which furnishes quarters for the department of dairy husbandry and a creamery which is conducted on a commercial scale.

The old Gymnasium, a two-story building, is used for the work in farm mechanics. This includes instruction in autos, tractors and farm machinery.

The new Armory provides offices, bath rooms, lockers, dressing rooms, target practice room, etc., for the departments of military and physical education. The main floor is 100 feet by 165 feet, free from supports, providing ample room for military drill and for athletics. A tract of land near the Armory has been fitted up for outdoor exercises and sports.

Wenona Hall and Wecota Hall are built adjoining each other, forming a splendid brick dormitory for young ladies, on a site just across the street from the campus. They will accommodate about one hundred eighty women.

In the fall of 1920 an emergency appropriation of \$55,000 was approved by the Governor of the State for the erection of one wing of a dormitory for the accommodation of men who have been disabled while in the army or navy and who are sent

here for training by the Federal Vocational Board. This wing was immediately begun and will be completed in the spring of 1921. An additional sum of \$50,000 was appropriated by the State Legislature for the completion of this building. The entire building, when completed, will accommodate about 160 men. (See following pages for details concerning dormitories.)

The central heating and electric light plant occupies a brick structure in the rear of the campus. The buildings are all heated by steam and lighted by electricity generated in this plant.

Near the campus on the adjoining college farm are located the agricultural and the dairy barns, together with a number of smaller buildings which are devoted to agricultural purposes.

The Farm and Horticultural Gardens.—The college farm includes seven hundred acres, about sixty acres of which are used by the Agricultural Experiment Station as an experimental farm. Here the field experiments with field crops, seed germination and soil preparation are conducted, and the students may witness and actually participate in this scientific work. The remainder of the farm is used as a model stock and dairy farm under the direction of the professor of animal husbandry. Practical work in experiments involving the best farming practices for this region are given the students.

The horticultural gardens comprise about fifty acres adjoining the campus. Here and in the greenhouse a large amount of work in fruit propagation and plant experimentation is being carried on.

The Laboratories, Shops and Museums.—Well fitted laboratories and shops have been provided in all those departments where their use is made necessary by modern educational methods. The value of illustrative materials has been recognized, and numerous departments have made large collections and museums. The equipment of the various departments is described in connection with the description of their work.

The Library and Reading Room.—The library, occupying rooms on the first floor of the Central Building, contains over

24,000 bound volumes and about 8,000 pamphlets. The institution is a repository for the government and contains sets of government publications dated from 1886. Many of the more valuable sets have been extended to an earlier date. Care has been exercised in the selection of books in order that each department may have proper reference books at the disposal of the students. The books are arranged according to the Dewey system of classification and are completely catalogued in the card catalogue. The library also receives the cards from the government cataloguing the bulletins of the experiment stations and the publications of the United States Department of Agriculture. The files of many standard scientific and literary periodicals are kept bound. The reading room is abundantly supplied with current periodicals and newspapers. The library is open nearly all the time, day and evening, and is at the disposal of students for the purpose of study and reading. Someone is in charge at all times to give help and information to those using the library

The Postal Facilities.—The College furnishes first-class postal facilities. Station A, Brookings, South Dakota, is a Federal Postoffice, located in the Administration Building at the College. Mail is delivered at convenient times during the day, making it unnecessary for students to go to the city post-office.

ORGANIZATION AND GOVERNMENT

The Board of Regents.—By an act of the Legislature approved March 10, 1897, provision was made for the appointment of the Regents of Education, who have charge of all of the educational institutions which are maintained either wholly or in part by the state. The terms of office of the regents are each six years and expire at different times, so that the board is a continuous body. Appointments to the board are made by the Governor, with the approval of the Senate, "of persons of probity and wisdom from among the best and best known citizens, residents of different portions of the State,

none of whom shall reside in the counties in which any of the state educational institutions are located, who shall be designated as the Regents of Education."

Among the powers and duties of the regents as defined by law some important ones are, to employ members of the different faculties and other agents, to determine the proper number of teachers in said faculties, also their compensation and terms of employment, to establish departments, to settle upon the courses of study, to determine the rules to be enacted for the government of students, to decide upon text books to be used, to fix tuition fees, to guard against unwise duplication of departments, to confer degrees, to control the Agricultural Experiment Station, and to promote education among the farmers by providing for institutes; in fact, to make all regulations as to the executive and instructional functions of the educational institutions of the State. The regents govern the College largely through a regents' committee.

The Faculty.—The faculty, consisting of the president and professors, all of whom are elected by the regents, determines in large part the general policy of the College. The professors are heads of the different departments of instruction which they represent and are responsible to the president, who is in charge of all matters of administration. The president, in turn, is responsible to the regents for the whole work of the institution. The president appoints, at the beginning of each college year, certain faculty committees which take up such work as may be assigned them by the president and faculty.

In the government of the College the faculty relies chiefly upon the sense of duty of the students. The student is expected to pursue his studies with diligence, to attend classes regularly and maintain good behavior at all times. Students are not only under the direct supervision of the faculty while on the campus, but are responsible for their conduct wherever they may be.

In order that the work of the College may be rendered as efficient as possible and all relations made harmonious, a set of regulations, chiefly governing matters of classification, has

been adopted by the faculty. No set rules are expected to cover every condition that arises, and all students should recognize the importance of co-operation with the faculty in their efforts to make college life helpful to the student body as a whole.

STUDENTS ACTIVITIES

Faculty Control.—While the students are allowed wide latitude in carrying on affairs which vitally concern themselves, such as athletic, literary, musical, social and other activities, the faculty retains an advisory interest in all such matters, and has the right at any time to pass reasonable regulations for the welfare of the College.

The Student Association.—The athletic, debating and oratorical interests, and the student publication, the Industrial Collegian, are under the control of the Student Association, which governs these activities by means of a Board of Control, consisting of students and members of the faculty. This board is organized into the Athletic, the Collegian, and the Debating Councils, each of which directs the respective interests that come under it. A fee of \$3.00 a term (\$5.00 for the School of Agriculture term) is charged for membership, which admits the holder to all student activities under the supervision of the association and pays for a subscription to the Industrial Collegian.

The Women's League.—This is a self-government organization for women. Each woman by virtue of her registration is a member of the league and is expected to co-operate in carrying out the policies of the league.

Athletics.—Under the auspices of the local organization and a number of college athletic associations of the State, all kinds of athletic sports are practiced and encouraged. Students should understand, however, that their studies must receive the first consideration; and that the purpose of athletic exercises is to develop gentlemanly and ladylike qualities in those who participate in them.

Oratory and Debating.—Each year for a number of years representatives of the college have met students from other institutions in debating contests. The members of the local teams are chosen in a series of preliminary contests in which all are encouraged to take part. There has thus been aroused among the student body a large interest in this kind of work and a healthy rivalry to obtain places on the intercollegiate teams.

Upon the recommendation of the instructor in charge of debating, four credits are given a student who takes part in an intercollegiate debate.

A representative of the college is sent each year to the intercollegiate oratorical contest of the State. This student is selected by means of a local preliminary contest. In order that this contestant may fully represent the College, the faculty has imposed the requirement that those competing for this honor must be pursuing regular work for the bachelor's degree.

The Student Publications.—The Industrial Collegian is a weekly paper published by the students of the College. It is intended to be a mirror of student life at this institution, and all phases of college activity have representatives on its staff of editors.

The Jack Rabbit is published annually by the junior class, and is a good representative and exponent of college life.

Members of the staffs of the Industrial Collegian and the Jack Rabbit may receive credit for work on these publications if this is done in co-operation with the department of Journalism. See description of this department.

The Literary Societies.—The literary society is an important factor in the education of the students and all are strongly advised to take part in this kind of work. There are three such societies of collegiate rank, the Athenian, the Miltonian, and the Delphian Society, and one, the Franklin, for preparatory students.

The Christian Associations.—In the state schools the Young Men's and Young Women's Christian Associations oc-

cupy unique positions. They are the only organizations whose primary object is the moral development of the student body. Their platforms are broad enough to allow every student who stands for pure manhood and womanhood to affiliate himself or herself with them. The purpose of the associations is to present the value of Christian living to the student and to the state, and to create an atmosphere of good-fellowship among the members of the student body. Each association is represented by a local secretary and also by state and international college secretaries.

Other Student Organizations.—Among these may be mentioned the Art Club, which encourages interest in art by bringing exhibits to the College and in various other ways; the Chorus, Orchestra, and Bands, which give a series of musical entertainments during the year; the Agricultural Club, the Engineering Club, the Pharmacy Club, the Home Economics Club and other organizations which promote interest along the various lines of college work.

TUITION, LIVING, AND OTHER EXPENSES

Tuition and Other Fees.—The following tuition fees are charged:

For work arranged in three months terms, \$4 for the term. This includes the collegiate and preparatory work of the college year, the auto-tractor course, and the three months creamery course.

For the School of Agriculture term of five months, \$6.

For the Summer School term of six weeks, \$5.

For special music fees, see the department of music.

No deduction in tuition fees is made when a student enters late.

A laboratory fee is charged for the use of each laboratory in which the student takes work, the amount of which will be found in the description of the subjects under the respective departments. Books and other supplies are furnished by the student.

As an inducement to students to register promptly, the regents have imposed the rule that a tardy enrollment fee of twenty-five cents per day shall be collected of all students who enroll subsequent to the regular day announced for that purpose. However, in no case shall the tardy enrollment fee exceed one dollar and fifty cents.

By action of the regents the tuition and incidental fees and laboratory fees, after having been paid, will in no case be refunded.

Scholarships, which afford free tuition to those who hold them, are granted to the following persons: (1) Honor graduates from accredited high schools; (2) Persons who have been honorably discharged from active military and other war service; (3) Students who receive scholarship appointments from their State senators or representatives; (4) A few graduate students to enable them to pursue work towards the masters' degree. For further details see the section of catalog describing "Scholarships and Honors."

Estimate of Expenses.—On account of the rapidly changing financial conditions, it is not possible to make a very accurate estimate of the necessary yearly expenses of a student. At the present time these are approximately as follows for the college year:

Board and Room	\$300.00
Tuition	12.00
Fees in Students Association	9.00
Laboratory Fees	15.00
Books and Supplies	40.00
Laundry Expenses	25.00
Incidentals	40.00
	<hr/>
	\$441.00

While the above is considered as a reasonable estimate, much depends upon the character of the student and the work he is taking.

Clothing is not included in the above estimate, since this item is approximately the same, whether the person is in college or not. However, all able-bodied men of collegiate

rank below the junior year and of all classes in the preparatory department and the school of agriculture are required to take military drill and are furnished uniforms by the War Department, thus being saved considerable expense. (For further information see description of military department.)

Rooms and Board.—Every effort is made by the college authorities to render the living conditions of the students wholesome and pleasant. If new students will write, the men to the Secretary of the Young Men's Christian Association, the women to the Dean of Women, these persons will arrange to have them met at the train and to assist them in getting suitably located.

All students must live in rooming places approved by the faculty. Wherever students reside, they are expected to conform to the general regulations of the college governing absences from the home, study hours, and other matters. Men students are not permitted to room in residences where women students, women employed in or about the city, or any girls or women not members of the housekeeper's immediate family, are rooming. This rule applies conversely to women students. The college regulations concerning relations of students and landladies, and other such matters, may be found in "the General Regulations for the Guidance of Students and Faculty" which may be obtained by applying to the Registrar.

Women students whose homes are not in Brookings are required to room and board in the women's dormitories unless permission to do otherwise is granted in advance by the college authorities. Men students can find approved rooms in private homes, or in the dormitory which is now being built. Since this building has been provided for the accommodation of the vocational men, these will be taken care of before rooms are assigned to other men. (See following pages for details concerning the dormitories.)

The Women's Dormitories.—The two dormitories, Wena Hall and Wecota Hall, will accommodate about one hundred seventy-five young women. Everything possible is done to make a real home for those who live there. The young women are given a large share in the government of the halls,

and are thus encouraged to form orderly habits and high ideals of conduct.

Precautions have been taken to reduce danger from fire to a minimum. The buildings are heated by steam and lighted by electricity. Bath rooms, toilet rooms and lavatories are on each floor. In addition, each room is provided with a large closet, and a stationary wash stand with hot and cold water.

Each room is provided with two single cots or beds, mattresses, two straight chairs, study table, dresser with mirror, rug and window shades. Bedding, including pillows, towels and other articles, must be provided by the students. Each girl should provide herself with a mattress pad, two pairs of pillow cases, three sheets, two pairs of blankets, napkin ring, six towels and a clothes bag.

The cost of rooms in the halls for each occupant, two in a room, is \$15.00 for the term of three months, or \$25.00 for the school of agriculture term. This fee includes both light and heat. The room rent is payable in advance. The occupants are expected to take care of their own rooms.

A student desiring a room reserved must forward \$5.00 with her application. This will apply on the regular room rent for the term. In no case will this advance payment be refunded after September first.

The New Dormitory for Vocational Men.—In the fall of 1920 the Governor of South Dakota approved an emergency appropriation of \$55,000 for the erection of a dormitory for the men who have been disabled while in the service of the United States Army or Navy, and who are being sent to the College by the Federal Board for Vocational Training, which pays the expenses of such men from funds provided by the National Government. One wing of a new building was immediately begun which will be ready for occupation before the end of the present college year. The Legislature of 1921 has appropriated an additional \$50,000 for this building, which will be completed as soon as possible. The wing now nearing completion will provide rooms for about 71 men, and the entire building when completed will accommodate about 160 men.

The cost of room for each occupant, two in a room, is \$18 per term (\$1.50 per week). This includes for vocational men bedding and care of the room. There are several suites of two rooms in the building which are suitable for light housekeeping. These will be rented to married couples at \$60 per term (\$20 per month of four weeks) for each suite, with no bedding furnished or care of rooms. All men furnish their own towels and soap.

If any vacant rooms remain after the vocational men are all provided for they will be rented to other men students at the same rates excepting that bedding (sheets, pillow slips and blankets) will not be furnished or laundered. It will always be distinctly understood that any such students must vacate rooms, if need be, in favor of vocational men.

The College Dining Hall.—In connection with the ladies' dormitories, a large dining hall and a cafeteria are conducted not only for the benefit of the young women who room in the buildings, but also for other students, both young women and men, who room elsewhere. The cost of board is thus reduced to a minimum. During the past year table board has been \$5.00 a week. The cafeteria arrangement permits a wider selection of food at a reasonable rate. Owing to the unsettled conditions at the present time it is impossible to state what the cost of board will be during the next year. However, the dining hall will be conducted so as to provide wholesome fare at minimum cost.

Payment for board in the dining hall must be made for four weeks in advance, and no deduction will be made for less than one week's absence, or a refund for less than one week.

Student Labor.—There is a limited amount of paid labor about the institution which can be done by students and it is the policy of the College authorities to give as much work to deserving students as is consistent with the best interests of all. However, no one should expect to earn his entire expenses while at college.

ADMISSION

General Requirements.—Candidates for admission to any department of the College must be at least fourteen years of age (sixteen for admission to tractor and auto-mechanics course), and of good moral character.

The completion of a high school or preparatory course of four years is the standard for regular entrance to the freshman class.

The completion of the eighth grade is required of those who enter the school of agriculture. To enter the tractor and auto-mechanics course and the three-month dairy course a reasonable knowledge of the English language is necessary.

All students should complete their registration on the days designated for this purpose at the beginning of each term and new students must present their credits at this time, or earlier, if they expect to be assigned a proper classification.

Entrance Credits.—For admission to the four years courses leading to the degree of Bachelor of Science, and the courses in Pharmacy leading to the degree of Pharmacy Graduate and Pharmaceutical Chemist, the student must present credit for fifteen units of high school or other secondary school work. A unit is a subject which is taught five periods a week throughout the school year, or the equivalent of this work. Of the fifteen units required, some are prescribed, the remaining units being in optional subjects as indicated in the table below.

A student who has graduated from an accredited high school course of four years will be enrolled as a member of the freshman class, but in case the prescribed subjects have not been completed, he may be required to bring up this back work.

A preparatory course is maintained for the benefit of students who are unable to attend a high school. A large part of the entrance work may be completed here. The first year of the work as it has been offered during preceding years will be discontinued after June, 1921, and those who enter the course after this should have completed the ninth grade or the first year of the high school course. For outline of the pre-

paratory work, see description of the Preparatory Department.

Students who are unable to present sufficient credits for high school work to enter the freshman class of the college courses may take entrance examinations during the time set apart for registration at the beginning of each term.

The list of prescribed and optional subjects is as follows:

Prescribed Units

English, three units in advance of grammar. These should consist of composition work and a study of some of the simpler American and English classics.

Algebra, one and one-half units for engineering students, one unit for others. The fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and the analysis and solutions of problems involving these principles.

Plane Geometry, one unit. The completion of plane geometry. Special emphasis should be paid to the solutions of original problems and constructions. Students of engineering who have not completed solid geometry in the high school will be required to take the subject in the freshman year of the college course.

Elementary Physics, one unit. One year's work covering the science as presented in the best text books. Laboratory work should accompany the text book work.

History, one and one-half units. This work should follow, and not include, elementary United States history, and should be a connected study of some of the following lines: ancient, medieval, modern, English, and American history.

Civics, one-half unit. A study of the constitutions of the United States and of the state, as presented in the best high schools.

While foreign language is not required for entrance to the college courses, it is very desirable that students have two years work in German, French, Spanish, or Latin in preparation for their college work. Not less than one year of foreign language will be accepted for entrance unless the student continues the subject in the college until the unit is completed.

Optional Units

The remaining units, which are optional, may be offered in the same lines of work as the prescribed units and in other departments, as indicated by the table below. About the only requirement made concerning the work for which credit is offered is that it should be of a reasonably high standard. The maximum credit that is allowed in each subject is indicated in the table. While no minimum is stated it is expected that the student shall have covered a reasonable amount of a subject before receiving credit in it.

TABLE OF ENTRANCE REQUIREMENTS

	Prescrib'd Units	Maxim'm Allowed
Civics -----	$\frac{1}{2}$	1
English -----	3	4
History, following elementary U. S. History -----	$1\frac{1}{2}$	3
Mathematics—		
*Algebra, thru quadratics -----	1	2
Plane Geometry -----	1	1
Physics, Elementary -----	1	1
Optional—		
Agriculture -----		1
Biology -----		1
Bookkeeping -----		$\frac{1}{2}$
Botany -----		1
Commercial Geography -----		$\frac{1}{2}$
Cooking -----		$\frac{1}{2}$
Foreign Languages (French, German, Spanish or Latin) -----		3
Freehand Drawing -----		1
Geology -----		$\frac{1}{2}$
Manual Arts, Woodwork and Forging -----		1
Mechanical Drawing -----		1
Physical Geography -----		$\frac{1}{2}$
Physiology -----		$\frac{1}{2}$
Sewing -----		$\frac{1}{2}$
*Solid Geometry -----		$\frac{1}{2}$
Zoology -----		$\frac{1}{2}$

*Solid geometry and one and one-half units of algebra are required of engineering students.

Advanced College Credit.—Advanced credit in the college may be obtained by presenting certified grades from other institutions of reputable standing or by examination. The College reserves the right, however, to cancel grades accepted from other schools should the student be found deficient in the subjects for which he has received credit. A student entering with advanced credit may use these as electives in the various college courses, as far as these courses permit. Reasonable substitutions of additional credits for prescribed work is also allowed. Applicants for admission to the collegiate courses are strongly urged to submit their entrance and advanced credits by mail before the opening of the college year and thus facilitate the work of registration. The college will furnish such persons with application blanks, which, after being filled out with certified standings and other information, should be returned to the Registrar.

SCHOLARSHIP AND REGISTRATION REQUIREMENTS

The Unit of Credit.—A credit or credit hour is the measure of the work done in carrying a subject for one term with one recitation a week or its equivalent. In work of college rank a recitation is intended to be accompanied by one and one-half or two hours of preparation. Three hours in the laboratory where no outside work is required is counted as one credit.

In preparatory or other secondary work the student is expected to spend at least one hour in preparation for a recitation, and two hours of laboratory work without additional outside work count as one credit.

Grades and Grade Points.—The work of students is graded by means of letters to each of which is assigned a certain value in grade points.

M (Medium) means that the student's work is of medium or average grade.

S (Superior) means that the work is above the average but not as high as

E (Excellent) meaning that the work is so far above the average as to merit special mention.

I (Inferior) means that the work is below the average, but not as low as

P (Passed) meaning that the student has only a sufficient knowledge of the subject as to make it unprofitable for him to repeat the subject.

C (Conditioned) means that the work of the student has not been satisfactory, but that it may be brought up to a passing grade without being repeated in the class, provided this is done according to the rules prescribed below.

D (Deferred) means that the student's work has been qualitatively satisfactory, but that for some reason beyond his control, part of the subject has not been completed.

F (Failed) means that the work of the student has been so poor that he should repeat the subject with the regular class in order to secure a passing grade.

Each instructor reports a grade for every student of his classes by means of the letters M, S, E, I, P, F, C and D and also makes an auxiliary report to the Registrar, giving information as to why the grades C and D are assigned.

The grades M, S, E, I, P, and F, after having been reported to the Registrar, may not be changed except by faculty action.

The marks C and D may be changed according to the following rules.

The Removal of C and D Marks.—The work for which C or D has been received may be made up in one of two ways:

First, by repeating the work with a regular class.

Second, by making up the deficient work outside of the regular class, provided suitable arrangements to do so can be made with the department concerned. This may necessitate taking work under a tutor under the supervision of the department. Whenever work is made up in this manner, the approval of the class adviser should be secured when the student registers for the term. After the completion of the deficient work the student should secure a statement from the instructor in charge of the work on a card provided for this pur-

pose which, after being approved by the class adviser, is to be presented to the Registrar in order that the new grade may be entered on the books. The mark C or D, however, shall remain on the books of the institution as a part of the student's record.

The mark C cannot be converted into a grade higher than P unless the subject is repeated with the class. This does not apply to the mark D.

If work for which C or D has been received is not made up in the second manner within one year after the subject was taken up with the regular class, the student must repeat it in class in order to secure a grade.

A subject in which F has been received must be repeated the next time it is regularly offered, provided it is prescribed in the course of study the student is following.

Grade Points.—Grade points are assigned to the letters for each credit as follows:

E—1.2 grade points.

S—1.1 grade points.

M—1 grade point.

I—.9 grade points.

P—.6 grade points.

C, D and F—No grade points.

In general, the number of grade points required for graduation in any collegiate course is at least equal to the number of credits required. This requires that the student who does not carry his work at the average grade or higher must complete additional work in order to graduate.

In order to encourage higher scholarship in the college the faculty has adopted the rule that the excess grade points of a student may operate to reduce by an equal number the credits required for graduation in any of the collegiate courses according to the following restrictions:

1. Not more than an excess of three grade points may be so used during any one year.

2. Excess grade points in limited credit courses (typewriting, music, etc.) may not be used to reduce credits in this way.

3. Except by special faculty action excess grade points shall not be used to reduce credits in prescribed subjects.

Advanced credit from other colleges will be accepted for grade points on the same basis as M, that is, one credit to one grade point.

The above rules with reference to grade points will be applied to all grades earned after June, 1920.

Registration.—In registering for work the student is advised by a member of the faculty who helps him to make out a consistent schedule of studies. In general he is expected to classify in the normal amount of work in the scheme of study he is pursuing. This is usually 17 credit hours in the college courses and 20 credit hours in the secondary courses.

The student of college rank will not be allowed to register in more than nineteen credit hours the first term of his attendance, and not more than nineteen hours any subsequent term unless his work during the preceding term is of a high character, and then only by special action of the faculty committee in charge of registration.

Elective Work.—Unless there are statements to the contrary, elective work in the college schemes of study may be chosen from any subjects offered for college credit in the different departments. It is recognized that music, the fine arts, typewriting, and a few other subjects may have a place in a well balanced course of study and the student may present for graduation a limited amount of credit from these lines of work. See index for references to statement concerning "Limited Credit Courses."

No instructor is required to give an elective subject to fewer than five students.

Military Requirements.—The national law organizing and endowing the state agricultural colleges requires that military science shall form a part of the instruction offered. All men students below the junior year are required to take military drill three times a week unless excused because of physical disability or some other reason. Certificates of disability should be obtained from the physician whom the Col-

lege authorities have designated for such work, the College bearing the expense of the examination.

Under the provisions of the law establishing the Reserve Officers Training Corps in this and other educational institutions, men of the junior and senior classes who have completed the required military work of the freshman and sophomore years may elect military science during the remainder of their course, and thus receive clothing and commutation of army rations from the National Government. For further regulations governing the work see the military department.

Conditioned Students.—Any student who without good reason has failed to receive a passing grade in a reasonable amount of his work will be registered only conditionally for future work. And if any student at any time is not carrying the work in which he is classified at a passing grade, or fails to perform other duties which may be expected of him, he may be placed upon the conditioned list and thus debarred from certain student privileges, or he may be dropped from the college.

Absences.—The student is held responsible for all absences from classes or other assignments. If he has a good reason for being absent, he should have his absences excused by the proper officer.

Absences from class, even for good reason, such as sickness or official representation on an intercollegiate team, militate against good scholarship. Therefore, if the number of excused absences in a subject passes beyond a reasonable limit (ten percent of the total number of assignments in the subject for the term) a reduction of grade-points or credits will be made in the student's record.

All absences without good reason are offenses against good conduct. Therefore a sharp distinction is made between excused and unexcused absences. A greater reduction will be made in the student's record for the latter than for the former, and continued absence from classes without excuse will result in suspension.

If a student can make suitable arrangements with his instructors, he may make up work that has been missed because

of excused absences, in which case the deduction will not be made from his record. This is not always possible, however, and students should understand that their instructors are not under any obligations to make such arrangements.

Work missed because of unexcused absences may not be made up in this manner.

For further details concerning the treatment of absences, see the General Regulations for the Guidance of Faculty and Students, copies of which may be obtained upon application to the Registrar's office.

HONORS AND SCHOLARSHIPS

The Honor Key.—In order to give recognition to students graduating with the degree of bachelor of science who have throughout their course shown evidence of superior worth, honor keys are awarded according to the following general requirements:

The selection shall be made on the basis of scholarship, character, loyalty and service to the College, and prospects of rendering valuable service to humanity.

Not to exceed one-half of those members of the senior class of the regular four years courses, whose grades rank them as to scholarship in the upper fourth of the class, shall be awarded keys.

All candidates must have done two years of residence work in the College. Keys shall be awarded to men and women on an equal basis.

The election shall be held in April. The choice shall be made by the heads of departments, a two-thirds majority being necessary for election.

Free Scholarships.—Three kinds of free scholarships are available in the seven state educational institutions under the control of the State Board of Regents of Education according to the law and the rules of the Board of Regents of Education.

Honor Graduates from Accredited High Schools.—To the highest ranking young man and young woman of good moral

character, graduating from any accredited four-year high school in South Dakota, shall be awarded free scholarships in the State University, the State College of Agriculture and Mechanic Arts, the State School of Mines, or in any of the State Normal Schools of the State. These scholarships shall afford free tuition and fees, except breakage charges, dormitory rent, and such deposits as may be required for the return of the equipment lent to the student, for any course or courses in these institutions, and shall in no case exceed \$60 in one fiscal year. Scholarships are not transferable from individual to individual, but upon the satisfactory completion of a year's work in one institution, may be transferred to another institution. A student transferring from one institution to another shall take with him the original copy of his scholarship, with his attendance record at the institution he is leaving endorsed thereon, and certified by the President or Registrar of the institution he is leaving. Scholarships may be withdrawn temporarily or permanently for misdemeanor or for failure or condition in any subject.

Should any highest ranking high school graduate be unable or unwilling to accept a scholarship for any given year, in any institution, public or private, it may be awarded to the graduate next highest in rank requesting it. A student waiving the privilege of a scholarship for any given year may claim it for any succeeding year or years but in no case shall more than one scholarship for a young man and one for a young woman be awarded to any high school graduating class.

Special blanks are provided for students wishing to apply for scholarships.

Senatorial and Representative Scholarships.—Each State Senator may issue scholarships to two students and each Representative to one student in any one of the institutions under the control of the Board of Regents of Education. These scholarships exempt the students from the regular tuition fees which amount to twelve dollars for the regular college year. These scholarships expire with the term of office of the Senator or Representative.

Special blanks are provided for students wishing to apply to their Senators or Representatives for these scholarships.

War Veterans.—Free tuition and fees are given by the institutions under the control of the Board of Regents of Education to residents of the state who have performed military service and who have been discharged or released from active service. This includes any person who has performed active war service in nursing or assisting in the care of soldiers or sailors as a member of the Red Cross or any other similar organization engaged in war relief work which was recognized and approved by the government. Applicants for these scholarships should bring their discharge papers when they enroll.

Graduate Scholarships.—A few scholarships are available for graduates of this or other colleges of equal rank. These pay from \$100 to \$400 and permit the student to carry graduate work toward the degree of Master of Science.

DEGREES AND CERTIFICATES

Degrees for Completion of Under-graduate Courses.—The courses of study leading to degrees given by the College are outlined on pages beginning with page 53, and are as follows:

The four years courses in Agriculture, in which the student has the opportunity of specializing along the lines of animal husbandry, dairy husbandry, agronomy, horticulture and plant pathology and teacher training. Upon the completion of one of these schemes, under the direction of the head of the department in which the group of electives is chosen, the student will receive the degree of Bachelor of Science in Agriculture.

The courses in Home Economics, each of four years, leading to the degree of Bachelor of Science. These include a general course, and courses in which the student may specialize in food and dietetics, clothing and millinery, or in teacher training work. For details concerning the teacher training work see the department of education.

The four years courses in Mechanical, Electrical and Civil Engineering, leading to the degree of Bachelor of Science in Engineering. See following pages for information concerning professional degrees in Engineering.

The two years course in Pharmacy, leading to the degree of Pharmacy Graduate.

The three years course in Pharmacy leading to the degree of Pharmaceutical Chemist. This course includes the work of the two years course with an additional year's work.

The student who completes either of the two preceding schemes of study may continue his work according to the prescribed plan and complete a four years course in Pharmacy leading to the degree of Bachelor of Science.

The four years course in General Science, leading to the degree of Bachelor of Science. The work of this course is largely elective and is planned to give the student a liberal education, at the same time permitting specialization in the sciences.

The four years course in Commercial Science, leading to the degree of Bachelor of Science.

The Degree of Master of Science.—The degree of Master of Science will be conferred upon graduate students who fulfil the following requirements:

1. The candidate must have received the degree of Bachelor of Science, from this college or from some other institution offering an equivalent course of study, prior to his acceptance as a candidate for the advanced degree. In special cases persons holding a degree other than that of Bachelor of Science may be permitted to qualify as candidates for the advanced degree.

2. He must present credits covering a course of study consisting of one major subject aggregating at least one-half year of collegiate credit, and two minor subjects aggregating at least one-half year of collegiate credit. While pursuing such work he should be in residence at this college not less than one college year. However, work completed at institutions

of equivalent requirements may be accepted in partial fulfillment of these requirements by the Committee on Advanced Degrees.

3. The major subject shall be taken only in work offered primarily to graduates.

4. The minor subjects, each covering approximately one-fourth year of collegiate credit, shall not be taken in work offered to freshmen and sophomores. All minor subjects shall be closely allied to the major work. No work done as a teacher shall be credited towards this degree, but at the discretion of the departments concerned the candidate may offer work done as assistant in the laboratories as minor work, provided, that for no work so offered shall he have received remuneration other than that sought as credit towards this degree.

5. No credits received as an undergraduate shall be accepted for the master's degree.

6. Within two weeks after the opening of the term in which the candidate begins his work for this degree, he shall present to the Committee on Advanced Degrees a written scheme of study, which gives in detail his proposed course, and which has been approved, with signatures, by the heads of departments in which he proposes to do his work. Such scheme shall be canvassed by the committee, and when approved by them and signed by their chairman, it shall at once be filed with the Registrar as the course which the candidate shall pursue without deviation.

7. The major subject must be satisfactorily completed three weeks prior to the conferring of the degree; at this time also there must be presented to the Committee on Advanced Degrees, in complete form, three typewritten copies of a suitable thesis which deals with some original problem related to the major subject, and bears the approval of the head of the department in which the major subject is taken. The thesis shall have the following form: It must be neatly typewritten upon unruled white paper of good quality, 8x11 inches in size, and a suitable title-page, printed or typewritten, must be affixed. The pages must have a margin of 1½ inches at the left, for binding, and writing should be on one side of the paper

only. When the committee has approved the thesis, two copies shall be deposited with the College Librarian as the property of the institution.

8. Following the committee's acceptance of the thesis and prior to the conferring of the degree, the candidate shall pass a satisfactory written examination upon the subject matter of his thesis and of his major subject, and an oral examination before a special committee appointed by the Committee on Advanced Degrees, to which examination all professors, associate professors and assistant professors shall be invited. In his minor subjects he may be examined with regular classes or individually by his instructors, at the option of the heads of the departments concerned.

9. All regular class work offered as minors must have been pursued with an average grade of not less than S (Superior), in order to be accepted as credit towards this degree.

10. In case the candidate is an employee of this institution, the minimum time limit during which he must distribute his work shall be two years unless otherwise determined by the Committee on Advanced Degrees.

11. In special cases the foregoing regulations may be modified by a vote of the faculty.

Professional Degrees in Engineering.—The degree of Civil Engineer, (C. E.), Mechanical Engineer, (M. E.), or Electrical Engineer, (E. E.), may be conferred upon a graduate of this institution who has made a superior record in college and in the practice of his profession, and who in addition has complied with the following regulations:

1. At least three years must have elapsed between the date of his graduation from the college and that of his application for the professional degree.

2. His application for the degree must be accompanied by a detailed statement of his professional experience since his graduation from this institution.

3. Within one year from the date of such application and prior to the conferring of the degree, the candidate must present to the Committee on Advanced Degrees a suitable thesis, covering some phase of his professional practice, and

complying with the regulations as prescribed for presentation of thesis for the degree of Master of Science.

Upon approval of his application and thesis by the Committee on Advanced Degrees, he may be recommended to the faculty for the proper professional degree.

Special and Secondary Courses.—The college offers courses in several important and practical lines of work in addition to the courses of study for degrees. These are mentioned elsewhere in the catalog under the proper headings, and are as follows:

The three years preparatory course. See the Preparatory Department.

The four years course in the secondary school of agriculture. See the School of Agriculture.

The one year course in farm mechanics and auto-tractor work. See Tractor and Auto Mechanics Course.

The three months creamery course. See the Practical Creamery Course, Dairy Husbandry Department.

The six weeks summer session. See the Summer School.

Courses in vocal and instrumental music. See Music Department.

Special work in art. See Art Department.

Special work in industrial arts for the training of teachers. See Industrial Arts Department.

The one year secretarial course. See Department of Commerce.

Special work in printing. See Department of Printing.

THE SUMMER SCHOOL

The work of the Summer Session is planned especially for those who desire training along the industrial lines—Agriculture, Manual Training, Home Economics and allied subjects—either to secure college credits or to prepare for teaching.

The vocational field offers excellent opportunities to teachers, the demand far exceeding the supply. The College is primarily a vocational institution and one of its principal

functions is to train teachers along vocational lines, its shops, laboratories, experimental plots, and live stock being available for this purpose.

In addition to members of the regular college staff, a number of special instructors and lecturers are employed during the session.

The tuition is \$5.00 for the term of six weeks, small additional fees being charged in laboratory subjects to pay for the material that is used.

Good rooms may be secured by men students in the city at reasonable rates, and by women students in the college dormitories. A dining hall is conducted in connection with the dormitories for both men and women, board being furnished practically at cost.

The Summer Session of 1921 will begin June 27, and close August 5.

Work will be given along the following lines:

Agriculture—Elementary Agriculture, Stock Judging, Farm Dairying, Soils and Crops, Poultry Culture, and special work for those interested in teaching agriculture in the common schools.

Home Economics—Cookery, Serving, Practice Cottage, Sewing, Dressmaking, Handwork, and Drawing.

Mechanic Arts—Woodworking, Joinery and Cabinet Construction, Finishing, Mechanical Drawing, Auto Repairing, and special courses for rural school teachers.

Commercial Branches—Bookkeeping, Shorthand, Typewriting, Penmanship, and Business Law.

Education—Educational Psychology, Principles of Teaching, General Vocational Education, Agricultural Education.

Social Sciences—Rural Sociology, Agricultural Economics, Industrial History of the United States.

The Sciences—Chemistry, Physics, Nature Study, Organic Evolution, Sanitation, Physiology.

English—Rhetoric, English Literature, American Literature.

Special Work for Rural Teachers—Primary Methods, Grammar, History, Civics, Geography, Algebra, Geometry.

For further information write for special Summer School Bulletin, addressing the Registrar, State College, Brookings, South Dakota.

THE AGRICULTURAL EXPERIMENT STATION

Under the provisions of the Hatch Act of March 2, 1887, and the Adams Act of March 20, 1906, the state receives annually \$30,000 from the treasury of the United States for the maintenance of an experiment station. By an act of the legislature this institution was made a part of the South Dakota Agricultural College. Its object is to investigate along agricultural lines, publish the results in bulletin form and distribute them to the residents of the state for their information and benefit. It consists of five divisions, namely: agronomy, animal husbandry, dairy, entomology and horticulture.

Each of these divisions is in charge of an expert who is also professor of the same subject in the College.

About sixty acres of the college farm are set aside for experiments in crop rotation and testing varieties of grains.

Another tract of sixty acres is utilized for experiments along horticultural lines, where trees, shrubs and vines are grown in profusion. Adaptation of grains, grasses, forage plants, fruits, trees, shrubs and vegetables for the Northwest is being carried on in co-operation with the United States Department of Agriculture and as a result many valuable varieties have been introduced which probably would not otherwise have reached us.

Each division is provided by the state with the proper facilities to conduct investigations, and at least four bulletins are published annually, which are free to residents of the state. Inquiries pertaining to the various agricultural interests are answered promptly. The regular mailing list of the station numbers over 22,000 names.

All communications to this department should be addressed to the Director, Agricultural Experiment Station, Brookings, South Dakota.

THE AGRICULTURAL EXTENSION DIVISION

In 1914 Congress passed the Smith-Lever Act, appropriating a sum of money to the various states in which Agricultural Extension Work including home economics should be established. The state of South Dakota in its last legislative session appropriated sufficient funds to meet the requirements of the Federal Act. In addition it appropriated \$51,000 for County Farm Bureau work for the biennial period. Activities are carried on under the project plan as follows:

1. Administration.
2. County Agent Work.
3. Short Course Work.
4. Boys' and Girls' Club Work.
5. Home Economics.
7. Farm Management.
8. Livestock Improvement.
9. Agricultural Engineering.
10. Horticulture.
11. Animal Disease Control.
12. Agronomy.

Any county in the state may secure the benefits of Federal and State appropriations in the following manner: It shall be lawful for 50 or more freeholders residing in at least one-third of the congressional townships of the county, to organize and incorporate a County Farm Bureau. The members of the association shall pay a membership fee of one dollar and shall file articles of incorporation with the Secretary of State, and elect a Board of Directors. The directors may secure an appropriation from the County Board of Commissioners which may be deposited with the Treasurer of State and be augmented from the state funds by 60 per cent of the amount so deposited. The county is then in a position to ask for Federal assistance.

The state law provides for the conducting of demonstration courses in Agriculture and Home Economics in all counties not employing a county agent. This work is under the immediate supervision of the Short Course Leader and is con-

ducted during the late fall and winter months. It takes the place of Farmers' Institutes of former years.

Boys' and Girls' Club Work is carried on in co-operation with the county superintendent of schools and through the County Farm Bureau. This work is in charge of a State Club leader. It consists in the organization of boys and girls between the ages of 10 and 18 years into clubs for the purpose of growing corn, economical pig raising, gardening and canning, bread and garment making, etc.

The federal emergency appropriation ceased July 1st, 1919, and most of the counties organized under the Emergency Act have continued as permanent counties under our State law.

Some counties maintain, in addition to the county agent, a home demonstration agent or boys' and girls' club leader.

Communications to this division should be addressed to the Director of Extension, State College, Brookings, South Dakota.

Plans of the Collegiate Courses of Study

On the following pages are outlined the following courses of study:

The four years courses in Agriculture.

The four years courses in Home Economics.

The four years courses in Engineering.

The four years course in Pharmacy.

The three years course in Pharmacy.

The two years course in Pharmacy.

The four years course in Commercial Science.

The four years course in General Science.

For entrance to these courses the student should have completed a four years course in an accredited high school or present fifteen units of entrance credit as indicated under "Entrance Requirements."

THE FOUR YEARS AGRICULTURAL COURSES

As indicated in the scheme outlined below, the freshman and sophomore years and certain subjects of the junior and senior years are prescribed for all agricultural courses. At the beginning of the junior year, the student is expected to select one of the following groups: Agricultural Education, Agronomy, Animal Husbandry, Dairy Husbandry, and Horticulture.

Upon the completion of the prescribed subjects and additional elective work to make 204 term credits, with 204 grade points, the student may receive the degree of Bachelor of Science in Agriculture.

Agricultural Courses

Freshman Year

	Fall	Winter	Spring
Inorganic Chemistry, Chemistry 1a, 1b, 1c ----	3	3	3
Rhetoric, English 1a, 1b, 1c -----	3	3	3
Stock Judging, Animal Husbandry 1a, 1b, 1c---	2	2	2
Grain and Root Crops, Agronomy 1a, 1b -----		3	3
General Horticulture, Horticulture 1a-----	2		
Agricultural Botany, Botany 1a, 1b, 1c -----	3	3	3
College Physics,* 2a, 2b, 2c, or elective -----	3	3	3
Military Drill, Military 1a, 1b, 1c -----	1	1	1
Personal Hygiene, Zoology 9 -----	1½		
Physical Training one hour per week			
	17½	18	18

Sophomore Year

Organic Chemistry, Chemistry 2 -----	5		
Quantitative Analysis, Chemistry 3 -----		3	
General Principles Poultry Culture, Poultry Culture 1 -----	3		
General Horticulture, Horticulture 1b-----			2
Agricultural Entomology, Entomology 20a, 20b,		3	3
General Bacteriology, Bacteriology 1 -----		4	
General Zoology, Zoology 1a, 1b-----	3	3	
Live Stock Management, Animal Husbandry 6			2
Veterinary Anatomy, Veterinary 1 -----			3
Survey of English Literature, English 6a, 6b, 6c or			

*Physics will be required of students of the course who have not presented elementary physics for entrance.

Survey of American Literature, English			
7a, 7b, 7c -----	2	2	2
Public Speaking, English 20a, 20b, 20c-----	1	1	1
Farm Dairying, Dairy Husbandry 1a, 1b -----	3		3
Military Drill, Military Science 2a, 2b, 2c, ----	1	1	1
Physical Training, one hour per week			
	—	—	—
	18	17	17

AGRICULTURAL EDUCATION GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c -----	4	4	4
Industrial History, History 3a, 3b -----		3	3
Heredity, Botany 8 -----	3		
Educational Psychology, Education 1 -----	4		
Vocational Agricultural Education, Educa- tion 3 -----		3	
Principles of Teaching, Education 2 -----			4
Farm Shop work, Industrial Art 6 -----			4
Electives -----	6	7	2
	—	—	—
	17	17	17

Senior Year

Economics, History 21 -----	4		
Agricultural Publicity, Agricultural Journalism 1		2	
Animal Nutrition, Animal Husbandry 4 -----	3		
History of Education, Education 4 -----		4	
Special Methods of Teaching Vocational Agricul- ture, Education 6 -----			4
*Practice Teaching in Agriculture, Education 10			4
Elective -----	10	11	9
	—	—	—
	17	17	17

Electives in teacher training course should be chosen from the following and along two or more lines:

1st Group—

Educational Administration, Education 5 -----	4
Educational Sociology, Education 11 -----	4
Rural Education, Education 12 -----	4
Secondary Education, Education 13 -----	4
Special Problems in Agricultural Education, Education 14 -----	4
Vocational Education, Education 15 -----	3

*Practice teaching and electives in education any term.

Industrial Education, Education 16	3
Introduction to Educational Measurements, Education 17	1
Educational Measurements, Education 18	4
Advanced Educational Measurements, Education 19	4
Genetic Psychology, Education 20	2
Social Psychology, Education 21	3
Education Seminar, Education 22	2-4
2nd Group—	
Advanced Stock Judging, Animal Husbandry 2	3
Non-Contagious Diseases, Veterinary 4	2
Live-Stock Production, Animal Husbandry 8a, 8b, 8c	4
Contagious Diseases, Veterinary 5	4
3rd Group—	
Crop Breeding, Agronomy 2a, 2b	6
Seed Inspection, Agronomy 5	3
Field Management, Agronomy 3	3
4th Group—	
Landscape Gardening, Horticulture 8	3
Forestry, Horticulture 2	2
5th Group—	
Agricultural Economics, History 22	4
Rural Sociology, History 32	4

AGRONOMY GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c	4	4	4
Industrial History, History 3a, 3b		3	3
Heredity, Botany 8	3		
Crop Breeding, Agronomy 2a, 2b		3	3
Seed Inspection, Agronomy 5	3		
Elective	7	7	7
	—	—	—
	17	17	17

Senior Year

Economics, History 21	4		
Geology, Agronomy 14	5		
Forage Crops, Agronomy 4			3
Animal Nutrition, Animal Husbandry 4	3		
Meteorology, Agronomy 15		4	
Elective	5	13	14
	—	—	—
	17	17	17

ANIMAL HUSBANDRY GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c -----	4	4	4
Industrial History, History 3a, 3b -----		3	3
Animal Nutrition, Animal Husbandry 4 -----	3		
Veterinary Physiology, Veterinary 2 -----	3		
Veterinary Pathology, Veterinary 3 -----		2	
Swine Production, Animal Husbandry 8b -----		3	
Horse Production, Animal Husbandry 8a -----		3	
Beef cattle Production, Animal Husbandry 8c ---			3
Elective -----	7	2	7
	—	—	—
	17	17	17

Senior Year

Economics, History 21 -----	4		
Heredity, Botany 8 -----	3		
Applied Embryology, Veterinary 6 -----	1		
Advanced Stock Judging, Animal Husbandry 2	3		
Sheep Production, Animal Husbandry 8d -----	3		
Animal Breeding, Animal Husbandry 3 -----		3	
Live Stock History, Animal Husbandry 7 -----			4
Contagious Diseases, Veterinary 5 -----		4	
Elective -----	3	10	13
	—	—	—
	17	17	17

DAIRY HUSBANDRY GROUP

Junior Year

Soils, Agronomy 9a, 9b, 9c -----	4	4	4
Industrial History, History 3a, 3b -----		3	3
Animal Nutrition, Animal Husbandry 4 -----	3		
Dairy Bacteriology, Dairy Husbandry 3 -----		4	
Dairy Management, Dairy Husbandry 6 -----			3

A choice of one of the two following groups is to be made. The same line of work must be followed in the senior year.

Dairy Production

Veterinary Pathology, Veterinary 3 -----	2	2	
Veterinary Physiology, Veterinary 2 -----	3		
Electives* -----	7	6	7

Dairy Manufactures

Dairy Inspection, Dairy Husbandry 2 -----	5		
Manufacture of Cheese, Dairy Husbandry 5			
or			
Dairy Technology, Dairy Husbandry 7 -----	5		

Manufacture of Butter, Dairy Husbandry 4 ----			5
Electives* -----		6	2
	17	17	17

Senior Year

	Fall	Winter	Spring
Economics, History 21 -----	4		
Dairy Seminar, Dairy Husbandry 14 -----			2
One of the two following groups must be taken depending on the line of work selected in the junior year.			

Dairy Production

Heredity, Botany 8 -----	3		
Animal Breeding, Animal Husbandry 3 -----		3	
Contagious Diseases, Veterinary 5 -----		4	
Dairy Cattle Feeding, Dairy Husbandry 15 ----	3		
Applied Embryology, Veterinary 6 -----	1		
Advanced Study of the Dairy Breeds, Dairy Husbandry 16 -----		3	
Electives -----	6	7	15

Dairy Manufactures

Manufacture of Cheese, Dairy Husbandry 5 or			
Dairy Technology, Dairy Husbandry 7 -----	5		
Advanced Dairy Inspection, Dairy Husbandry 11		4	
Management of Dairy Plants, Dairy Husbandry 17			3
Business Law, Commerce 2 -----	3		
Business Organization and Control, Commerce 3		3	
Creamery Accounting, Commerce 9 -----			3
Electives* -----	5	10	9
	17	17	17

*Electives must be selected in consultation with the Dairy Husbandry Department.

HORTICULTURAL GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c -----	4	4	4
Heredity, Botany 8 -----	3		
Industrial History, History 3a, 3b -----		3	3
General Forestry, Horticulture 2 -----	2		
Landscape Gardening, Horticulture 8 -----	2		
Plant Physiology, Botany 3 -----			3

Plant Diseases, Botany 4 -----		3	
Tree Fruit Culture, Horticulture 3a, 3b -----	2		2
Elective -----	4	7	5
	<hr/>	<hr/>	<hr/>
	17	17	17

Senior Year

Economics, History 21 -----	4		
Orchard Entomology, Entomology 22 -----			3
Garden Entomology, Entomology 23 -----		3	
Agricultural Publicity, Agricultural Journalism 1 -----		2	
Agricultural Economics, History 22 -----		4	
Marketing and Co-operation, History 23 -----			3
Plant Breeding, Horticulture 6 -----			2
Small Fruit Culture, Horticulture 5 -----			2
Systematic Pomology, Horticulture 4 -----	2		
Home Vegetable Gardening, Horticulture 10 -----			2
Nursery Practice, Horticulture 7a, 7b -----	2		2
Plant Materials, Horticulture 17 -----			2
Horticultural Problems, Horticulture 15 -----	1	1	1
Elective -----	8	7	
	<hr/>	<hr/>	<hr/>
	17	17	17

Alternate I. Those who specialize in Market Gardening should substitute Advanced Vegetable Gardening (Horticulture 11), and Commercial Vegetable Gardening (Horticulture 12), for Nursery Practice (Horticulture 7a, 7b), and Home Vegetable Gardening (Horticulture 10).

Alternate II. Those who specialize in Landscape Gardening should substitute Landscape Design (Horticulture 14a, 14b, 14c), for Systematic Pomology (Horticulture 4), Small Fruit Culture (Horticulture 5), Home Vegetable Gardening (Horticulture 10) and Marketing and Co-operation (History 23).

THE FOUR YEARS COURSES IN HOME ECONOMICS

These courses are designed to permit students to obtain a broad general training in home economics or to specialize along one of the three lines, foods and dietetics, clothing and millinery, and teacher training work in home economics.

As indicated in the schemes outlined, the subjects of the freshman and sophomore years, and certain subjects of the junior and senior years are the same for all. At the beginning of the junior year the student is expected to select one

of the four groups mentioned. Upon the completion of the prescribed work and sufficient elective work in addition to make 204 term credits, with 204 grade points, the degree of Bachelor of Science may be received.

Home Economics Courses

Freshman Year

	Fall	Winter	Spring
Rhetoric, English 1a, 1b, 1c -----	3	3	3
Inorganic Chemistry, Chemistry 1a, 1b, 1c -----	3	3	3
Design, Art 2a, 2b, 2c -----	2	2	2
Food Preparation and Marketing, Home Economics 1a, 1b -----	4	4	
Household Physics, Physics 3 -----			4
Elementary Sewing, Home Economics 9a, 9b ----	3	4	
Textiles and Laundry, Home Economics 10 ----			4
Freshmen Lectures -----	$\frac{1}{2}$	$\frac{1}{2}$	
Physical Education 1a, 1b, 1c -----	1	1	1
	16 $\frac{1}{2}$	17 $\frac{1}{2}$	17

Sophomore Year

Survey of English Literature, English 7a, 7b, 7c or			
Survey of American Literature, English 6a, 6b, 6c -----	2	2	2
Zoology and Physiology, 1a, 1b, 7 -----	3	3	3
Organic Chemistry, Chemistry 2 -----	5		
Chemistry of Nutrition, Chemistry 6 -----		4	
General Bacteriology, Bacteriology 1 -----			4
Food Preparation, Home Economics 2a, 2b -----	3	4	
Dressmaking, Home Economics 11 -----			4
Public Speaking, English 20a, 20b, 20c -----	1	1	1
Physical Education 2a, 2b, 2c -----	1	1	1
Elective -----	2	2	2
	17	17	17

GENERAL GROUP

Junior Year

	Fall	Winter	Spring
Educational Psychology, Education 1 -----	4		
Home Nursing, Home Economics 8 -----	3		
Dietetics, Home Economics 5a, 5b -----		4	4
Dressmaking, Home Economics 12 -----	3		

Physiological Chemistry, Chemistry 5 -----			4
Design and Composition, Art 3a,			
or			
Applied Design, Art 4 -----	2		
House Decoration, Art 3b -----		2	
Costume Design, Art 3c,			
or			
Applied Design, Art 4 -----			2
Modern History, History 1a, 1b, 1c -----	3	3	3
Elective -----	2	8	4
	<hr/>	<hr/>	<hr/>
	17	17	17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Rural Sociology, History 32 -----			4
Household Management, Home Economics 15a --	3		
Home Equipment, Home Economics 15b, 15c ---		3	3
Millinery, Home Economics 14 -----		4	
*Practice Cottage, Home Economics 16 -----	6		
Elective in Home Economics -----		4	
Demonstration work in Home Economics,			
Home Economics 7 -----			4
Elective -----	4	2	6
	<hr/>	<hr/>	<hr/>
	17	17	17

CLOTHING AND MILLINERY GROUP

Junior Year

	Fall	Winter	Spring
Educational Psychology, Education 1 -----	4		
Design and Composition, Art 3a,			
or			
Applied Design, Art 4 -----	2		
House Decoration, Art 3b -----		2	
Costume Design, Art 3c -----			2
Physiological Chemistry, Chemistry 5 -----			4
Dressmaking, Home Economics 12 -----	3		
Dietetics, Home Economics 5a, 5b -----		4	4
Home Nursing, Home Economics 8 -----	3		
Modern History, History 1a, 1b, 1c -----	3	3	3
Elective -----	2	8	4
	<hr/>	<hr/>	<hr/>
	17	17	17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Household Management, Home Economics 15a --	3		
Home Equipment, Home Economics 15b, 15c -----		3	3
Millinery, Home Economics 14 -----		4	
Practice Cottage, Home Economics 16 -----	6		
Elective in Clothing -----			3 or 4
Elective -----	4	6	11 or 10
	—	—	—
	17	17	17

FOODS AND DIETETICS GROUP

Junior Year

Educational Psychology, Education 1 -----	4		
Drafting and Dressmaking, Home Economics 12	3		
Dietetics, Home Economics 5a, 5b -----		4	4
Design and Composition, Art 3a, or Applied Design, Art 4 -----	2		
House Decoration, Art 3b -----		2	
Costume Design, Art 3c, or Applied Design, Art 4 -----			2
Home Nursing, Home Economics 8 -----	3		
Modern History, History 1a, 1b, 1c -----	3	3	3
Physiological Chemistry, Chemistry 5 -----			4
Elective -----	2	8	4
	—	—	—
	17	17	17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Household Management, Home Economics 15a --	3		
Home Equipment, Home Economics 15b, 15c ---		3	3
Institutional Management, Home Economics 17 --			5
*Practice Cottage, Home Economics 16 -----	6		
Demonstration Work in Home Economics, Home Economics 7 -----			4
Elective -----	4	10	5
	—	—	—
	17	17	17

HOME ECONOMICS EDUCATION GROUP

Junior Year

	Fall	Winter	Spring
Educational Psychology, Education 1	4		
History of Education, Education 4		4	
Principles of Teaching, Education 2			4
Physiological Chemistry, Chemistry 14			4
Design and Composition, Art 3a, or Applied Design, Art 4	2		
House Decoration, Art 3b		2	
Costume Design, Art 3c, or Applied Design, Art 4			2
Dietetics, Home Economics 5a, 5b		4	4
Dressmaking, Home Economics 12	3		
Home Nursing, Home Economics 8	3		
Modern History, History 1a, 1b, 1c	3	3	3
Elective	2	4	
	<hr/>	<hr/>	<hr/>
	17	17	17

Senior Year

Economics, History 21	4		
Sociology, History 31		4	
Household Management, Home Economics 15a ..	3		
Home Equipment, Home Economics 15b, 15c ---		3	3
*Practice Teaching, Education 9	5		
Home Economics Elective			4
Special Methods Teaching Home Economics, Education 7a, 7b	3	3	
Demonstration Work in Home Economics, Home Economics 7			4
*Practice Cottage, Home Economics 16		6	
Elective	2	1	6
	<hr/>	<hr/>	<hr/>
	17	17	17

*Practice Teaching and Practice Cottage may be taken any term according to arrangement by the professors in charge of these courses.

THE FOUR YEARS COURSES IN ENGINEERING

The college offers courses in Mechanical, Civil and Electrical Engineering. As indicated below, the work of the freshman and sophomore years is the same for all three of these courses, with the exception that in the sophomore year students of Civil Engineering take topographical surveying instead of machine shop which is required of students of Mechanical and Electrical Engineering.

The course in Civil Engineering gives an option in the senior year which permits students to prepare themselves for work in highway engineering, in which there are now many opportunities for trained civil engineers.

Upon the completion of the prescribed subjects and additional elective work to make 204 term credits, with 204 grade points, the student may receive the degree of Bachelor of Science.

Engineering Courses

Freshman Year

	Fall	Winter	Spring
Inorganic Chemistry, Chemistry 1a, 1b, 1c, -----	3	3	3
Rhetoric, English 1a, 1b, 1c, -----	3	3	3
College Algebra, Mathematics 2 -----	5		
Trigonometry, Mathematics 3 -----		5	
Analytic Geometry, Mathematics 4 -----			5
Engineering Drawing, Mechanical Engi- neering 3a, 3b -----	3	2	
Forging, Mechanical Engineering 1a -----	2		
Machine Shop, Mechanical Engineering 2a ----		3	
Descriptive Geometry, Mechanical Engineering 5			2
Plane Surveying, Civil Engineering 1 -----			3
Hygiene, Zoology 9 -----	$\frac{1}{2}$		
Military Drill, Military Science 1a, 1b, 1c -----	1	1	1
Physical Training, one hour per week	—	—	—
	17 $\frac{1}{2}$	17	17

Sophomore Year

Calculus, Mathematics 5a, 5b -----	5	5	
Analytic Mechanics, Mathematics 6 -----			5

General Physics, Physics 1a, 1b, 1c -----	4	4	4
Survey English Literature, English 6a, 6b, 6c or			
Survey American Literature, 7a, 7b, 7c -----	2	2	2
Public Speaking, English 20a, 20b, 20c-----	1	1	1
Applied Electricity, Elec. Engineering 1a, 1b ---	1	1	
Machine Shop (Mechanical Engineering and Electrical Engineering students), Me- chanical Engineering 2b, or			
Topographical Surveying (Civil Engineer- ing students), Civil Engineering 2 -----	3		
Machine Design, Mechanical Engineering 6 ----		3	
Elements of Mechanism, Mechanical Engi- neering 7 -----			4
Military Drill, Military Science 2a, 2b, 2c -----	1	1	1
Physical Training, one hour per week			
	—	—	—
	17	17	17

CIVIL ENGINEERING

Junior Year

	Fall	Winter	Spring
Hydraulics, Civil Engineering 4 -----	4		
Water Supply, Civil Engineering 13 or			
Roads and Pavements, Civil Engineering 12 ---	3		
Electrical Machinery, Electrical Engineering 3a	5		
Steam Engines and Thermodynamics, Mechanical Engineering 9a, 9b -----	3	3	
Railroad Surveying, Civil Engineering 7 or			
Sewerage, Civil Engineering 14 -----		3	
Graphic Statics, Civil Engineering 5 -----		3	
Mechanics of Materials, Civil Engineering 6a, 6b		3	3
Industrial History, History 3a, 3b -----		3	3
Railroad Surveying, Civil Engineering 18 or			
Irrigation Engineering, Civil Engineering 15 ---			2
Stresses, Civil Engineering 8 -----			3

Topographical Drawing, Civil Engineering 3

or

Contracts and Specifications, Civil Engineering 21

General Bacteriology, Bacteriology 1 -----

Elective * -----

			1
			4
2	2		1
17	17		17

Senior Year

Masonry and Reinforced Concrete, Civil Engineering 9 -----

Water Supply, Civil Engineering 13

or

Roads and Pavements, Civil Engineering 12 ----

Economics, History 21 -----

Bridge Design, Civil Engineering 11a -----

Engineering Laboratory, Mechanical

Engineering 12a, 12b, 12c -----

Railroad Surveying, Civil Engineering 7

or

Sewerage, Civil Engineering 14 -----

Reinforced Concrete, Civil Engineering 10 ----

Geology, Agronomy 14 -----

Railroad Surveying, Civil Engineering 18

or

Irrigation Engineering, Civil Engineering 15 ---

Structural Steel Design, Civil Engineering 19 --

Heating and Ventilation, Mechanical

Engineering 14 -----

Topographical Drawing, Civil Engineering 3

or

Contracts and Specifications, Civil Engineering 21 -----

Elective * -----

A choice of one of the following groups is to be made:

			2
			3
			5
			3
			2
			3
			3
2	2		1
2	2		4

GROUP A

Bridge Design, Civil Engineering 11b -----

Higher Structures, Civil Engineering 20 -----

			2
			2

GROUP B

Highway Engineering, Civil Engineering 16 ----

Highway Engineering, Civil Engineering 17 ----

			2
			2
17	17		17

*Electives in this course must be approved by the Professor of Civil Engineering.

ELECTRICAL ENGINEERING

Junior Year

	Fall	Winter	Spring
Electricity and Magnetism, Electrical Engineering 3 -----	5		
Dynamos and Motors, Electrical Engineering 4 --		5	
Alternating Currents, Electrical Engineering 5			5
Machine Design and Kinematics, Mechanical Engineering 8 -----	3		
Mechanics of Materials, Civil Engineering 6a, 6b -----		3	3
Steam Engines and Thermodynamics, Mechanical Engineering 9a, 9b -----	3	3	
Steam Boilers, Mechanical Engineering 10 -----			3
Hydraulics, Civil Engineering 4 -----	4		
Graphic Statics, Civil Engineering 5 -----		3	
Stresses, Civil Engineering 8 -----			3
Elective -----	2	3	3
	—	—	—
	17	17	17

Senior Year

Advanced Alternating Currents, Electrical Engineering 6 -----	5		
Electric Lighting, Electrical Engineering 7 -----		5	
Electric Transmission, Electrical Engineering 8			4
Dynamo Design, Electrical Engineering 9 -----		4	
Power Plant Design, Mechanical Engineering 15			4
Engineering Laboratory, Mechanical Engineering 12a, 12b, 12c -----	2	2	2
Masonry and Concrete, Civil Engineering 9 -----	3		
Reinforced Concrete, Civil Engineering 10 -----		3	
Contracts and Specifications, Civil Engineering 21 -----			1
Economics, History 21 -----	4		
Gas and Oil Engines, Mechanical Engineering 13 -----			2
Elective -----	3	3	4
	—	—	—
	17	17	17

MECHANICAL ENGINEERING

Junior Year

	Fall	Winter	Spring
Hydraulics, Civil Engineering 4 -----	4		
Steam Engines and Thermodynamics, Mechanical Engineering 9a, 9b -----	3	3	
Steam Boilers, Mechanical Engineering 10 -----			3
Electricity and Magnetism, Electrical Engineering 3 -----	5		
Machine Design and Kinematics, Mechanical Engineering 8 -----	3		
Mechanics of Materials, Mechanical Engineering 6a, 6b -----		3	3
Dynamos and Motors, Electrical Engineering 4--		5	
Graphic Statics, Civil Engineering 5 -----		3	
Alternating Currents, Electrical Engineering 5 --			5
Stresses, Civil Engineering 8 -----			3
Elective -----	2	3	3
	—	—	—
	17	17	17

Senior Year

Masonry and Concrete, Civil Engineering 9 ----	3		
Economics, History 21 -----	4		
Engineering Laboratory, Mechanical Engineering 12a, 12b, 12c -----	2	2	2
Advanced Alternating Currents, Electrical Engineering 6 -----	5		
Reinforced Concrete, Civil Engineering 10 -----		3	
Engineering Design, Mechanical Engineering 11		5	
Electric Lighting, Electrical Engineering 7-----		5	
Contracts and Specifications, Civil Engineering 21--			1
Power Plant Design, Mechanical Engineering 15			4
Heating and Ventilation, Mechanical Engineering 14 -----			3
Gas and Oil Engines, Mechanical Engineering 13			2
Elective -----	3	2	5
	—	—	—
	17	17	17

THE PHARMACY COURSES

Three plans of study are offered by the School of Pharmacy as indicated below. Upon the completion of the work of the first two years with 98 grade points, the student may receive the degree of Pharmacy Graduate. After completing the work of the first three years with 150 grade points, the degree of Pharmaceutical Chemist may be received. Upon completing the additional prescribed work of the four years course with sufficient elective work to make 204 term credits together with 204 grade points the student will receive the degree of Bachelor of Science in Pharmacy.

The Two Years Plan of Study

This course is designed to acquaint the student with the terms, practice and ethics of modern pharmacy. It complies with both the state and national requirements and fully prepares the applicant for the state examination.

The Three Years Plan of Study

This course has been especially outlined to meet the ever increasing demands for more widely trained men not only in the "Art of Compounding," but in the analysis and synthesis of pharmaceuticals, as well as to give the student proper foundations for research problems.

The Four Years Plan of Study

The four years plan of study is a continuation of the three years course and leads to the degree of Bachelor of Science in Pharmacy. It is especially adapted to the student who wishes to become a teacher of pharmacy or to pursue work for the more advanced degrees.

Regulations of the State Board of Pharmacy

Among the regulations of the South Dakota State Board of Pharmacy is the following:

"Hereafter and during the year of 1906, all applicants appearing for registration by examination must present with their application an affidavit showing that they have completed a course of study (or its equivalent) of one year high school work. In 1907, two years; in 1908, three years, and in 1909 the presentation of a high school diploma will be required. These requirements were recommended by the Association in annual meeting at Canton in 1903. It is therefore expedient that all proprietors doing a drug business in this state acquaint their clerks and apprentices with the above rule."

Further recommendations were made by the State Board at a meeting held in Sioux Falls, in January, 1918, which are in substance: "That it shall be deemed expedient for all applicants appearing before the State Board for registration to have had two years of practical experience in a drug store where prescriptions are regularly compounded, together with the Ph. G. degree from a reputable school of pharmacy, or one year of experience and the Ph. C. degree, before said applicant should appear for examination."

In order to harmonize our work with this regulation we require the completion of four years of high school work or its equivalent. While this is a much higher requirement than most schools demand, the results have justified our judgment, for at present there are but three of our graduates who have taken the state examination who are not registered.

This line of work offers many inducements to young men. The requests of the druggists of the state for our graduates are far in excess of the supply and the pure food and drug laws have opened up a new field for young men who are competent drug and food assayists.

For a detailed description of the subjects offered and information relative to the equipment of the Department of Pharmacy see the description of the department (see index for reference to pages).

Below is given a brief outline of the subjects and the credits required for each of the four years.

Pharmacy Course**Freshman Year**

Inorganic Chemistry, Chemistry 1a, 1b, 1c -----	3	3	3
Pharmaceutical Latin, Pharmacy 1a, 1b -----	2	2	
Accounting, Commerce 8 -----	2		
Pharmaceutical Botany, Pharmacy 3 -----	5		
Pharmacy Physiology, Zoology 8a, 8b -----	4	3	
Theoretical Pharmacy, Pharmacy 5a, 5b, -----		4	3
Practical Pharmacy, Pharmacy 6 -----			2
Pharmacognosy, Pharmacy 4a, 4b -----		4	5
Chemical Problems, Chemistry 17 -----			3
Military Drill (Men), Military 1a, 1b, 1c or Physical Training (Women), Physical Education 1a, 1b, 1c -----	1	1	1
Personal Hygiene (Men), Zoology 9, or *Freshman Lectures (Women) -----		$\frac{1}{2}$	
Physical Training (Men) one hour per week			
	<hr/> 17 $\frac{1}{2}$	<hr/> 17	<hr/> 17

Sophomore Year

Materia Medica, Pharmacy 2a, 2b, 2c -----	5	5	5
Theoretical Pharmacy, Pharmacy 7 -----	4		
Organic Chemistry, Chemistry 2 -----	5		
General Bacteriology, Bacteriology 1 -----			4
Dispensing, Pharmacy 9a -----		4	
Dispensing Laboratory, Pharmacy 9b -----		4	
Practical Pharmacy, Pharmacy 8 -----	3		
Drug Assaying, Pharmacy 11a, 11b -----		4	4
Prescription Practice, Pharmacy 10 -----			4
Military 2a, 2b, 2c (Men), or Physical Education 2a, 2b, 2c (Women) -----	1	1	1
Physical Training (Men), one hour per week			
	<hr/> 18	<hr/> 18	<hr/> 18

Junior Year

Rhetoric, English 1a, 1b, 1c -----	3	3	3
Advanced Organic Chemistry, Chemistry 7a, 7b, 7c -----	4	4	4
Urine Analysis, Pharmacy 12 -----	4		
Toxicology, Pharmacy 13a, 13b -----		4	4
Elective -----	6	6	6
	<hr/> 17	<hr/> 17	<hr/> 17

*Women students are required to take freshman lectures also during the winter term.

Senior Year

Survey of American Literature, English 7a, 7b, 7c -----	3	3	3
Modern History, History 1a, 1b, 1c -----	3	3	3
Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Elective -----	7	7	11
	<u>17</u>	<u>17</u>	<u>17</u>

THE FOUR YEARS COURSE IN COMMERCIAL SCIENCE

This course is designed for those who wish to pursue a full college course and at the same time specialize in business subjects. It prepares for business administration or commercial teaching. A one year vocational course is offered for those who must enter business with less preparation than a full college course. See the Department of Commerce for outline of this course.

Upon the completion of the prescribed work of the four years course together with enough elective work to make 204 credits, together with 204 grade points, the student may receive the degree of Bachelor of Science in Commerce. A certificate will be given to those who complete the one year course.

Commercial Course

Freshman Year

	Fall	Winter	Spring
Accounting, Commerce 1a, 1b, 1c -----	3	3	3
Rhetoric, English 1a, 1b, 1c -----	3	3	3
Business Law, Commerce 2 -----	3		
Business Organizations, Commerce 3 -----		3	
Money and Banking, Commerce 4 -----			3
Military Drill (Men), Military 1a, 1b, 1c or Physical Education (Women), 1a, 1b, 1c ---	1	1	1
Personal Hygiene (Men), Zoology 9, or *Freshman Lectures (Women) -----	$\frac{1}{2}$		
Physical Training (Men), one hour per week			
Elective -----	7	7	7
	<u>17</u>	<u>17</u>	<u>17</u>

Women students are required to take freshman lectures also during the winter term.

Sophomore Year

Stenography, Commerce 5a, 6a; 5b, 6b; 5c, 6c ----	7	7	7
Survey of English Literature, English 6a, 6b, 6c or Survey of American Literature, English 7a, 7b, 7c -----	2	2	2
Public Speaking, English 20a, 20b, 20c-----	1	1	1
Industrial History, History 3a, 3b -----		3	3
Military Drill (Men), Military 2a, 2b, 2c, or Physical Training (Women), 2a, 2b, 2c-----	1	1	1
Physical Training (Men), one hour a week ----			
Elective -----	6	3	3
	17	17	17

Junior Year

American Government, History 11 -----	4		
Political Parties, History 12 -----		4	
Comparative Government, History 13 -----			4
Psychology, Education 1 -----	4		
Electives in Education -----		4	4
Typewriting, Commerce 6a, 6b, 6c -----	2	2	2
Elective -----	7	7	7
	17	17	17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Agricultural Economics, History 22 -----		4	
Rural Sociology, History 32 -----			4
Agricultural Publicity, Agricultural Jour. 1 ----		2	
Geology, Agronomy 14 -----	5		
Elective -----	8	7	13
	17	17	17

THE FOUR YEARS COURSE IN GENERAL SCIENCE

The four years course in general science affords a good general education and allows specialization either in the biological sciences or in mathematics and physical science. The entrance requirements are the same as those of the other courses leading to degrees, except that students pursuing this course must present credit for elementary physics, or complete this subject or its equivalent as a part of their collegiate work. (See entrance requirements.)

The requirements for graduation in this course are 204 credits, including freshman hygiene, the military drill required of all men and the physical training required of all women during the freshman and sophomore years, with 204 grade points.

These credits are distributed as follows:

I. Prescribed work. The following are required of all students taking the course: English, including rhetoric, 15 credits; public speaking, 3 credits; inorganic chemistry, 9 credits; *general mathematics, 9 credits; economics, 4 credits; history, 9 credits; geology, 5 credits;** military drill (men), or physical training (women), 6 credits; psychology, 4 credits; freshman lectures, one-half credit of men, 1 credit of women.

II. In addition to the prescribed work, not less than 12 credits must be chosen in each of groups 2 and 3, as listed on page 76, and not less than 36 credits from both groups.

III. Forty-two credits, exclusive of prescribed work, must be chosen from group 4.

IV. The remaining credits may be chosen from all groups.

The work of the freshman and sophomore years is outlined below. Unless there is some good reason to the contrary, students of the general science course will not be allowed to deviate from this plan.

Students who bring credits from other institutions will, of course, not be required to repeat subjects they have already covered.

*Students who intend to continue work in mathematics beyond the freshman year should take mathematics 2, 3, and 4, instead of general mathematics (Mathematics 1a, 1b, 1c).

**Men students will be required to take physical training without credit one hour a week during the freshman and sophomore years.

General Science**Freshmen Year**

	Fall	Winter	Spring
Inorganic Chemistry, Chemistry 1a, 1b, 1c -----	3	3	3
Rhetoric, English 1a, 1b, 1c -----	3	3	3
General Mathematics 1a, 1b, 1c -----	3	3	3
Military Drill (Men), Military 1a, 1b, 1c or Physical Training (Women), 1a, 1b, 1c ----	1	1	1
Freshman Lectures (Women) -----	$\frac{1}{2}$	$\frac{1}{2}$	
Hygiene (Men), Zoology 9 -----	$\frac{1}{2}$		
Physical Training (Men), one hour a week -----			
And one of the following:			
French 1a, 1b, 1c or Spanish 1a, 1b, 1c -----	3	3	3
General Botany, Botany 2a, 2b, 2c -----	3	3	3
English History, History 2a, 2b, 2c -----	3	3	3
Business Law, Business Organization, Banking, Commerce 1, 2, 3 -----	3	3	3
Electives to make seventeen credits -----	—	—	—
	17	17	17

Sophomore Year

English Literature, English 6a, 6b, 6c or American Literature, English 7a, 7b, 7c -----	2	2	2
Public Speaking, English 20a, 20b, 20c -----	1	1	1
Military Drill (Men), Military 2a, 2b, 2c or Physical Training (Women), 2a, 2b, 2c -----	1	1	1
Physical Training (Men), one hour per week			
And two of the following:			
General Physics, Physics 1a, 1b, 1c -----	4	4	4
Organic, Quantitative, and Physiological Chem- istry, Chemistry 2, 3, 14 -----	5	3	4
Business Law, Business Organization, Banking, Commerce 1, 2, 3 -----	3	3	3
English History, History 2a, 2b, 2c -----	3	3	3
General Botany, Botany 2a, 2b, 2c -----	3	3	3
General Zoology and Physiology, Zoology 1a, 1b, 7 -----	3	3	3
French 2a, 2b, 2c or Spanish 2a, 2b, 2c -----	3	3	3
Electives to make seventeen credits -----	—	—	—
	17	17	17

Description of Work

Groups of Collegiate Subjects

For convenience in securing balance in schedules the subjects of college grade are arranged in five groups:

1. Here belong the vocational and technical subjects offered in the departments of Agricultural Journalism, Agronomy, Animal Husbandry, Art, Civil Engineering, Commerce, Dairy Husbandry, Education, Electrical Engineering, Entomology, Home Economics, Horticulture, Industrial Art, Mechanical Engineering, Military Science, Pharmacy, Poultry Husbandry, and Veterinary Medicine.

2. The biological sciences, including most of the work offered by the departments of Botany, Zoology and Entomology.

3. The mathematical and physical sciences, including the work of the departments of Chemistry, Mathematics, Physics, and a few other subjects.

4. Languages and the social sciences, including the subjects offered by the departments of Education, English, History and Political Science, and Foreign Languages.

5. The fine arts, including music, charcoal drawing and painting.

Rules Governing Electives

Except where otherwise indicated, it is understood that the electives of any collegiate plan of study may be selected from the work of any collegiate department with the following general restrictions:

If a student begins a subject which is continued during the following term or terms, he should complete the subject.

Not less than one year of a foreign language will receive credit towards a degree unless the student presents a credit for one year of the same language studied elsewhere.

The amount of credit in music, the fine arts, and several other lines, that may be counted towards a degree in courses that permit elective work is naturally limited. Such work is designated in the departmental descriptions as "limited credit" subjects and include:

(1) Music, with the exception of history of music, theory of music, and harmony.

(2) The fine arts, including painting, charcoal drawing and handicraft.

(3) Forging, carpentry, typewriting, printing and other subjects that are concerned largely with training the hand. However, in case a student desires to become proficient in some one of these lines of study with the view of teaching the subject, special concessions may be made to him by the classification committee.

(4) College credit received for intercollegiate debating and oratory, editorial work on student publications, and in other activities outside regular classes.

In general not more than ten credits in "limited credit" subjects may be counted towards a degree, and unless prescribed in the scheme of study not more than three may be counted in any one year.

Laboratory Fees and Breakage Deposits

Following is a list of laboratory fees and deposits for collegiate subjects. For laboratory fees in connection with Preparatory subjects, The School of Agriculture, Printing, and Tractor and Auto Mechanics, see descriptions of these departments.

Agronomy			Lab.	
			Fee	Deposit
Grain and Root Crops,	3 cr.,	w, s	\$1.00	
Soils,	4 cr.,	f, w, s	2.00	\$2.00
Adv. Soil Fertility,	4 cr.,	f, w, or s	2.00	2.00
Adv. Soil Physics,	4 cr.,	f, w, or s	2.00	2.00
Geology,	5 cr.,	f	1.00	
Meteorology,	4 cr.,	w	1.00	

Animal Husbandry

Stock Judging,	2 cr., f, w, s	1.00
Adv. Stock Judging,	3 cr., f,	1.00
Horse Production,	3 cr., w	1.00
Swine Production,	3 cr., w	1.00
Beef Cattle Production,	3 cr., s	1.00
Sheep Production,	3 cr., f	1.00

Art

Charcoal Drawing,	1 or 2 cr., f, w, or s	.50
Design,	2 cr., f, w, s	.50
Design and Composition,	2 cr., f	.50
House Decoration,	2 cr., w,	.50
Costume Design,	2 cr., s	.50
Handicraft,	1 or 2 cr., f, w, or s	.50

Bacteriology,	4 cr., f, w, or s	5.00
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Botany

Agr. Botany,	3 cr., f, w, s	2.00
Gen. Botany,	3 cr., f, w, s	2.00
Plant Physiology,	3 cr., s	3.00
Plant Diseases,	3 cr., w	2.00
Plant Histology,	4 cr., w	4.00
Adv. Botany and Research,		1.00 per cr.

Chemistry

Inorganic Chemistry,	3 cr., f, w	3.00	2.00
Inorganic Qual. Analysis,	3 cr., s	4.00	2.00
El. Organic Chemistry,	5 cr., f	5.00	2.00
Quant. Analysis,	3 cr., w	3.50	2.00
Volumetric Analysis,	3 cr., s	2.00	2.00
Chemistry of Foods and Nutrition,	4 cr., s	3.50	2.00
Adv. Organic Chemistry,	5 cr., f, w, s	5.00	2.00
Prox. Organic Analysis,	3 cr., w	3.50	2.00
Water Analysis,	3 cr., s	4.00	2.00
Agr. Chemistry,	4 cr., f	2.00	2.00
Physical Chemistry,	5 cr., s	\$5.00	\$2.00
Physiological Chemistry,	5 cr., f	5.00	2.00
Technical Analysis,	4 cr., s	5.00	2.00
Adv. Qual. Analysis,	4 cr.,	3.00	2.00
Thesis, fee dependent upon work assigned.			

Civil Engineering

Plane Surveying,	3 cr., s	2.00
Topographical Surveying,	3 cr., f	2.00
Railroad Surveying,	3 cr., w	1.00
Railroad Surveying,	2 cr., s	2.00

Commerce

Typewriting,	3 cr., f, w, or s	2.00
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Dairy Husbandry

Farm Dairying,	3 cr., f, s	1.00
Dairy Inspection,	5 cr., f	2.00
Dairy Bacteriology,	5 cr., f	2.00
Manuf. of Butter,	5 cr., s	2.00
Manuf. of Cheese,	5 cr., f	2.00
Dairy Technology,	5 cr., f	2.00
Adv. Insp. Dairy Prod.,	4 cr., w	2.00
Adv. Dairy Bacteriology,	4 cr., s	2.00

Electrical Engineering

Applied Electricity,	1 cr., f	1.00
Applied Electricity,	1 cr., w	1.00
Electrical Machinery	5 cr., f	2.00
Electricity & Magnetism,	5 cr., f	2.00
Direct Cur. Dynamos & Motors,	5 cr., w	2.00
Alternating Current Electricity,	5 cr., s	2.00
Adv. Alt. Currents,	5 cr., f	2.00
Electric Lighting,	5 cr., w	2.00
Electric Transmission & Power,	4 cr., s	2.00

Home Economics

Food Preparation & Marketing,	4 cr., f, w	3.00
Food Preparation,	4 cr., f, w	3.00
Dietetics	4 cr., w, s	3.00
Special Cookery Problems,	4 cr., f	3.00
Demonstration Cookery,	4 cr., s	3.00
Home Nursing,	3 cr., s	.50
Elementary Sewing,	3 cr., f, w	.50
Textiles and Laundry,	4 cr., w, s	2.00
Dressmaking,	4 cr., s	.50
Drafting and Dressmaking,	3 cr., f	.50
Modeling and Adv. Dressmaking,	4 cr., s	1.50
Millinery,	4 cr., w, s	1.00
Household Management,	3 cr., f	1.00
Institutional Management,	5 cr., s	\$2.00

Industrial Art

Cabinet Making	2 cr., f, w	.75 per cr.
Wood Turning	2 cr., s	.75 per cr.
Furniture Design	2 cr., s	.75 per cr.
Carpentry	2 cr., s	.75 per cr.

Mechanical Engineering

Forging, any term,	f, w, or s	.75 per cr.	
Machine Shop,	3 cr., f, w	.75 per cr.	
Engineering Laboratory,	2 cr., f, w, s	2.00	

Pharmacy

Pharmaceutical Botany,	5 cr., f	2.00	2.00
Pharmacognosy,	4 cr., w, s	2.00	2.00
Prac. Pharmacy,	2 cr., s	2.00	2.00
Prac. Pharmacy,	3 cr., f	5.00	2.00
Dispensing,	4 cr., f, w, s	5.00	2.00
Drug Assaying,	4 cr., w, s	2.00	2.00
Urine Analysis,	4 cr., f	2.00	2.00
Toxicology,	4 cr., w, s	2.00	2.00

Physics

General Physics,	4 cr., f, w, s	2.00	
College Physics,	3 cr., f, w, s	2.00	
Adv. Physics,	5 cr., f	2.00	
Heat,	5 cr., w	2.00	
Light,	5 cr., s	2.00	

Zoology and Entomology

General Zoology,	3 cr., f, w	2.00	
Pharmacy Physiology,	4 cr., f; 3 cr., w	2.00	
Vertebrate Histology,	4 cr., f, w	2.00	
Vertebrate Entomology,	3 cr., s	3.00	
Entomology,	3 cr., w, s	1.50	
Orchard Entomology,	3 cr., s	1.00	
Garden Entomology,	3 cr., f	1.00	
Field Crops Entomology,	3 cr., s	1.00	
Bee Keeping,	3 cr., f	2.00	

Collegiate Departments of Instruction

The following departments offer collegiate work which may be applied towards the various degrees. In the description of the work which follows, these are arranged in alphabetic order.

Agricultural Journalism	History and Political Science
Agronomy	Home Economics
Animal Husbandry	Horticulture and Forestry
Art	Industrial Art
Botany and Plant Diseases	Mathematics
Chemistry	Mechanical Engineering
Civil Engineering	Military Science
Commerce	Music
Dairy Husbandry	Pharmacy
Education	Physics
Electrical Engineering	Physical Education
English	Poultry Husbandry
Foreign Language	Veterinary Medicine
Zoology-Entomology	

The numbers in parentheses following the name of each subject indicate respectively the number of hours the student is expected to spend each week in the lecture room, the laboratory, and in study.

AGRICULTURAL JOURNALISM

MR. KIESER

The following courses are designed to assist those who become public servants as teachers, county agents, home demonstration leaders and other specialists along agricultural lines, and who by the nature of their work will be expected to prepare news items and articles for publication. The requirements of the rural press are kept especially in mind.

1 News Writing (2, 0, 4) 2 credits Fall term

Methods of gathering news; the writing of news; news values. Practice in preparing news stories and special articles.

2 Agricultural Journalism (2, 0, 4) 2 credits Winter term

Gathering and writing agricultural news, special articles and advertising for newspapers, bulletins and agricultural journals.

3 Feature Story Writing (2, 0, 4) 2 credits Spring term

Particular emphasis is placed on methods of popularizing scientific and technical material. Text: Bleyer's How to Write Special Feature Articles.

AGRONOMY

PROFESSOR HUME; ASSOCIATE PROFESSOR HUTTON; ASSOCIATE PROFESSOR EVANS; ASSISTANT PROFESSOR BUSHEY; MR. FOWLDS.

The Agronomy Department is the department of soils and crops. To help students apply the principles of science to crop production on the farms of South Dakota is the essential purpose of the courses offered.

What is soil in South Dakota, or on some farm within the state? The student may learn to outline soil areas, to analyze soils, to observe field experiments, and answer the question for himself.

What crops will grow in South Dakota soil areas, and how may the growing of them be made most profitable to the man who does the work? A study of the results of experiments will answer the questions for the student. It is attempted to give the student in agronomy that accurate knowledge of conditions which is necessary to success in farming.

The courses offered are fundamental, practical, scientific. They are designed for South Dakota farmers. They may be pursued with profit by prospective teachers of agriculture, or experiment station workers.

1a, 1b Grain and Crop Roots (1, 4, 4) 3 credits Winter term
(2, 4, 3) 3 credits Spring term

Production and marketing of the common field crops, including barley, corn, flax, oats, potatoes, rye and wheat. Classification, grading and judging of seed. Open to all college students. Required of all agricultural students. One recitation and four hours of laboratory work a week, winter term; two recitations and four hours of laboratory work a week, spring term. Mr. Evans.

Laboratory fee, \$1.00 each term.

2a, 2b	Crop Breeding	(2, 2, 5) 3 credits	Winter term
		(2, 2, 5) 3 credits	Spring term

Principles of cropping with emphasis upon improvement by selection and breeding; dealing chiefly with principal field crops of South Dakota—corn, wheat, oats, barley, potatoes, alfalfa. In addition to text book references, such magazines as the Journal of Agronomy, Science, The Journal Heredity. Students may be requested to subscribe for at least one such magazine. Prerequisite, two years of college work. Required of all agronomy students. Two recitations and one two-hour seminar a week. Mr. Hume.

3 Field Management	(1, 4, 4) 3 credits	Winter term
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Arrangement and management of crop rotations with special reference to cost and profit under South Dakota conditions. Prerequisite, Agronomy 1a, 1b. One recitation and four hours of laboratory work a week. Mr. Evans.

4 Forage Crops	(1, 4, 4) 3 credits	Spring term
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Production and marketing of forage; including meadow and pasture grasses, millets, prosos, sorghums, clovers, field peas, field beans. Open to all college students. Required of all agronomy students. One recitation and four hours of laboratory work a week. Mr. Evans.

5 Seed Inspection	(0, 4, 5) 3 credits	Fall term
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Seed testing, seed impurities and methods of eradication of weeds from farm crops and seeds; characteristics of crop impurities from the standpoint of eradication, as quack grass, Canadian thistle, wild oats. Open to all college students. Required of all agronomy students. Four hours of laboratory work a week. Mr. Fowlds.

6 Crop Inspection	3 credits	Fall term
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Advanced judging; examination of the several varieties of cereals, root and forage crops, with special reference to resistance to adverse weather conditions and diseases. Examination of crops in the field, experiment plots and prepared specimens. Prerequisite, Agronomy 1a, 2b. Mr. Evans.

7a, 7b	Field Crops	3 credits	Winter term
		3 credits	Spring term

Special problems for advanced students, who may become interested in a particular line of investigation, in relation to cereal or forage crops; production or growth of crops; crop improvement; study of previous experiments; original work in greenhouse or field. Student may be required to submit a final report or thesis. Time to be arranged. Mr. Hume; Mr. Evans.

8 Experiment Field Observation 3 to 6 credits Summer

A course open to students who work under the direction of the Agronomy Department on one of the experiment farms or on some other approved project. Assisting in laying out plots, taking field notes, cultivating, harvesting, threshing. May make a collection of crops, weeds and grasses. Will keep a notebook and receive credit on basis of work, and examination by the Agronomy Department.

9a, 9b, 9c Soils (2, 6, 4) 4 credits Each term

The first half of the year is devoted to Soil Physics and Management. The origin and development of the soil under different climatic conditions; classification of soils upon several bases; texture, porosity, specific gravity, plasticity, capillarity, granulation of soils; the soil as a reservoir for water; the movement and control of soil water; irrigation and drainage; the alkali problem; aeration of the soil and its relation to soil texture and plant growth; soil temperature; the physical effect of manures upon the soil; soil erosion by wind and running water—blowing and washing—and their control; the practical application of the foregoing to methods of tillage; crop rotation and the application of green and farm manures in the management of different types of soil. The laboratory work includes a careful study of the physical properties of the soil through observation and practice; soils are also studied under field and green house conditions.

The second half of the year is devoted to Soil Fertility. The relation of the fertility content of the soil to crop yields; effect of supplying various elements of fertility; effects of different rotations and systems of farming in relation to permanent agriculture; farming systems adapted to South Dakota conditions. The laboratory work includes the analysis of manures and fertilizers and the determination of their agricultural and commercial values; the analysis of various farm products and the analysis of a soil, preferably from the student's home farm, to determine fertility content. These analyses serve as the basis for devising a system of permanent agriculture for the student's home farm. Prerequisite, Agronomy 1 and 10, Elementary Physics, Organic, Inorganic, and Quantitative Chemistry. Required of all agricultural students. Two recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee, \$2.00, deposit \$2.00 each term.

10 Advanced Soil Physics (2, 6, 4) 4 credits Any term

Designed for students who wish to continue the work in Soil Physics begun in Agronomy 9a. A study in the field of the effects of disk-ing, harrowing, rolling, subsoiling, frequency and depth of cultivation with reference to conservation of soil moisture. The student may select a soil in which he is interested and make a complete physical analysis thereof; he may make a careful study of the movement of the water therein and its effect upon the growth of plants; he may choose a special irrigation

or drainage problem in which he is interested; the results of the work are summarized in a final report or thesis. Students who elect this course are advised to signify their intention of so doing at the end of the college year, so that materials may be collected during the summer, and observations recorded. Prerequisite, Agronomy 12. Two recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee, \$2.00, deposit \$2.00.

11 Advanced Soil Fertility (2, 6, 4) 4 credits Any term

A continuation of Agronomy 9c. The student may study in detail a special soil in which he is interested or pursue a special problem. The work may include pot culture work in the greenhouse; analysis of soil used in the pots; application of various fertility elements and their relation to the management of the soil; the study of the micro-organisms of the soil in relation to the preparation and availability of plant food, preparation of culture media, cultures from soil suspensions, preparation and study of a few pure cultures, ammonification, nitrification, nitrogen fixation legume bacteria and conditions favorable to their growth, inoculation; results of bacterial action determined by quantitative analysis; reading of bulletins, books, etc., and the preparation of a bibliography. The results of the study will be submitted in a final report or thesis. Prerequisite, Agronomy 9c. Two recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee, \$2.00, deposit \$2.00.

12 Irrigation and Drainage (3, 0, 6) 3 credits Any term

A consideration of the effects of the change in water content of soils through irrigation and drainage; the effect upon the physical condition of the soil and upon its productivity, special attention given to the problems of irrigation and drainage of unreclaimed lands in South Dakota. Lectures, reading, field observations. Prerequisite, Agronomy 9c. Three recitations a week. Mr. Hutton.

13 Soil Surveying (2, 0, 4) 2 credits Spring term

The object of this course is to familiarize students with the methods of determining soil types and constructing soil maps. The work in the recitation room is supplemented by actual work in the field. Designed for those students who may wish to take up soil survey work. Prerequisite, Agronomy 9b. Two recitations or field trips a week. Mr. Hutton.

14 Earth Science; Geology (3, 6, 6) 5 credits Fall term

A course in general geology with the greater emphasis placed upon the physical division of the subject. The geology of South Dakota in relation to soils, water supplies and mineral wealth is given special attention. Collections of rocks, minerals, typical fossils, physiographic and

geologic models, lantern slides, charts and maps are available for laboratory work and reference. Prerequisite, junior standing. Three recitations and six hours of laboratory a week. Mr. Hutton.

Laboratory fee, \$1.00.

15 Earth Science; Meteorology (3, 3, 6) 4 credits Winter term

A practical course dealing with the laws controlling the movements of the atmosphere, the study of climatological and weather factors, with special attention to conditions in the United States; the climate and weather of South Dakota in relation to various economic interests, weather maps, and forecasts. Prerequisite, junior standing. Three recitations and three hours of laboratory work a week. Mr. Hutton.

Laboratory fee, \$1.00.

ANIMAL HUSBANDRY

PROFESSOR WILSON; ASSOCIATE PROFESSOR KUHLMAN;
ASSISTANT PROFESSOR GRINNELLS

It is generally admitted that livestock farming is the basis for an intensive agriculture and that it, as well as good farming, must be practiced if the fertility of the soil is to be maintained.

Work in this department aims to give the student a practical and scientific knowledge of animal husbandry. The herds and flocks include representatives of fifteen of the leading breeds of farm animals, which are used for class and demonstration purposes.

The following subjects are offered by this department:

1a, 1b, 1c Stock Judging (2, 2, 2) 2 credits Each term

Study and practice in scoring and judging market types and classes of horses, cattle, sheep and swine; history, characteristics, and economic importance of the various breeds; and the judging of breeding classes. Two recitations and two laboratory hours per week. Mr. Wilson, Mr. Kuhlman, and Mr. Grinnells.

Laboratory fee \$1.00 each term.

2 Advanced Stock Judging (0, 6, 3) 3 credits Fall term

This course includes advanced work in judging market, breeding, and show animals of the various breeds of horses, cattle, sheep and swine. Special emphasis is placed upon training students who intend to teach stock judging, act as judges at fairs and shows, and to engage in

operations. Prerequisite, Animal Husbandry 1a, 1b, 1c. Six hours of laboratory work per week. Mr. Kuhlman.

Laboratory fee \$1.50.

3 Principles of Animal Breeding (3, 0, 6) 3 credits Winter term

This course deals with the laws of reproduction and development of animals and the study of the different systems employed in producing both market and breeding animals. Prerequisite, Animal Husbandry 1 and 6 and Veterinary 6. Three recitations per week. Mr. Kuhlman.

4 Animal Nutrition (3, 0, 6) 3 credits Fall term

This subject deals with the physical and chemical characteristics of the various feeding stuffs and their relation to practical feeding operations. Prerequisite, Animal Husbandry 1a, 1b, 1c, Chemistry 1a, 1b, 1c. Three recitations per week. Mr. Grinnells.

6 Live Stock Management (2, 0, 4) 2 credits Spring term

A study of practical methods and principles involved in the management of all classes of live stock. Pre-requisite, Animal Husbandry 1a, 1b, 1c. Two recitations per week. Mr. Kuhlman.

7 Live Stock History (3, 3, 6) 4 credits Spring term

A detailed historical study of the common breeds, the methods employed by noted breeders, study of pedigrees of individuals and families and their relation to the development of the breed. Pre-requisite, Animal Husbandry 1a, 1b, 1c. Three recitations per week. Mr. Kuhlman.

8a Horse Production (3, 3, 3) 3 credits Winter term

Feeding, judging, management and marketing of horses. Pre-requisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Grinnells.

Laboratory fee, \$1.00.

8b Swine Production (3, 3, 3) 3 credits Winter term

Feeding, judging, management and marketing of swine. Pre-requisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Kuhlman.

Laboratory fee, \$1.00.

8c Beef Cattle Production (3, 3, 3) 3 credits Spring term

Feeding, judging, management and marketing of beef cattle. Pre-requisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Wilson.

Laboratory fee, \$1.00.

8d Sheep Production (3, 3, 3) 3 credits Fall term

Feeding, judging, management and marketing of sheep. Pre-requisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Kuhlman.

Laboratory fee, \$1.00.

9 Live Stock Problems (to be arranged) 1 to 5 credits Each term

Advanced and graduate students who have necessary qualifications may be assigned special problems along definite investigational lines. Such work will include assigned readings, conferences, and in a limited number of cases original work in animal husbandry research. Mr. Wilson; Mr. Kuhlman.

10 Farm Meats (2, 3, 4) 3 credits Winter term

Selecting, cutting, and curing of meats in the farm home. Elective to Juniors and Seniors. Prerequisite, Veterinary 1 and 2, Animal Husbandry 1a, 1b, 1c and 4. Mr. Grinnells.

ART

PROFESSOR CALDWELL; ASSOCIATE PROFESSOR WILLIS;
MISS GERNON

The work of this department is designed to cultivate in the student intelligent appreciation and enjoyment of beauty in nature and art.

1 Charcoal Drawing (0, 3, 0) 1 (or 2) credits Any term

A study from cast, pose and still life, of the construction of heads and figures, the modeling of surfaces and effects of light. Three hours work for each credit. Limited credit subject. Miss Caldwell.

Laboratory fee, 50 cents.

2a Design (0, 6, 0) 2 credits Fall term

A study of space cutting and proportion. Exercises in line and in dark and light, in pencil and charcoal. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

2b Design (0, 6, 0) 2 credits Winter term

A study of values, or dark and light arrangements within spaces; borders and surface patterns. Prerequisite, Art 2a. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

2c Design (0, 6, 0) 2 credits Spring term

A study of color; hue value, intensity and harmony of color applied to simple designs. Prerequisite, Art 2a and 2b. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

3a Design and Composition (0, 6, 2) 2 credits Fall term

A study of informal design in line, dark and light and color; decorations for definite problems; simple illustrations with special emphasis on composition. Prerequisite, Art 2a, 2b, 2c. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

3b House Decoration (0, 6, 0) 2 credits Winter term

A study in proportion in line, dark and light and color as applied to the needs of a well designed house. The planning of color schemes and arrangements for particular rooms, giving special attention to light exposure. Prerequisite, Art 2a, 2b, 2c. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

3c Costume Design (0, 6, 0) 2 credits Spring term

A study of art as applied to costume; designing dress with careful attention to the proportions and personality of the wearer and suitability to the occasion. Prerequisite, Art 2a, 2b, 2c. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

4 Applied Design (0, 3, 0) 1 (or 2) credits Any term

A study of the principles of proportion and decoration as applied to construction and pattern in the various crafts of basketry, pottery, leather tooling, metalry, weaving, stencilling, block printing and lace making. Usually the student may choose the crafts in which he wishes to work. Prerequisite, the student must have had some training in drawing and design. Prerequisite for leather and stencilling, Art 1, and for second term pottery, charcoal drawing. Three to six hours of studio work a week. Miss Gernon; Miss Caldwell.

Laboratory fee, 50 cents.

5 Painting (0, 3, 0) 1 credit Any term

A study of color and its properties; exercises in mixing and harmonizing color in painting in oil, watercolor and pastel, from objects and nature. Prerequisite, Preparatory Drawing or Charcoal Drawing. Three hours of studio work a week. Limited credit subject. Miss Caldwell.

6a, 6b, 6c Art Appreciation (1, 0, 2) 1 credit Each term

A study of arts as expressed in the great masterpieces of architecture, sculpture and painting. Illustrated with pictures and lantern.

Fall term: Important styles of architecture; characteristics, examples.

Winter term: Important schools of painting, great masters and examples of their work.

Spring term: 1, great American artists and their work; 2, some of the minor arts such as pottery, china, tapestry, etc. Students are advised to take the courses in art appreciation in the order named, but may take any term. Each student will be expected to own a small collection of Perry or University prints. Miss Caldwell.

BOTANY AND PLANT DISEASES

PROFESSOR PETRY

In the work of this department, the structure, physiology, classification and pathology of plants, the fundamental problem of cell structure and function are studied, as well as the direct application of botanical science to agriculture. This work also helps to serve as a foundation for courses in forestry, plant breeding, plant diseases, etc.

The instruction aims primarily to develop the powers of accurate observation and the ability to draw correct conclusions.

Both the elementary and advanced laboratories are equipped with microscopes and other necessary apparatus for carrying on advanced or research work. The department has fairly complete, convenient herbaria of the flowering plants and fungus flora of the northern United States.

1a Agricultural Botany (2, 4, 3) 3 credits Fall term

The general principles of biology as illustrated by plants, a study of the cell, followed by a study of the nature of flowering plants and especially of those more closely related to agriculture. Two lectures or recitations and two two-hour laboratory periods a week.

Laboratory fee, \$2.00.

1b Agricultural Botany (2, 4, 3) 3 credits Winter term

A continuation of course 1a. The first part of the work will take up the life cycles of the principal types of algae; the latter part of the work will be a consideration of the principal groups of fungi. Two lectures or recitations and two two-hour laboratory periods a week.

Laboratory fee, \$2.00.

1c Agricultural Botany (2, 4, 3) 3 credits Spring term

The study of plants from a systematic point of view. The classification of trees found on the campus, followed by the identification of the principal groups of common weeds. The study of plant associations

and their meaning for agriculture. Two lectures or recitations and two two-hour laboratory periods a week.

Laboratory fee, \$2.00.

2a, 2b, 2c General Botany (2, 4, 3) 3 credits Each term

The work in this course will be somewhat similar to the preceding courses, but modified to apply more directly to the needs of students in General Science and Household Economics. Two lectures or recitations and two two-hour laboratory periods a week.

Laboratory fee, \$2.00 each term.

3 Plant Physiology (2, 4, 3) 3 credits Spring term

A consideration of the more important life processes of the plant including the properties of living matter; the general physiology of metabolism, growth, reproduction and irritability, the control of the chemical and physical life processes of plants, etc. Prerequisite, Botany 1a, 1b, 1c, or 2a, 2b, 2c. Two recitations and two two-hour laboratory periods a week.

Laboratory fee, \$3.00.

4 Plant Diseases (2, 4, 3) 3 credits Winter term

This course acquaints the student with the commoner plant diseases of the state together with the best methods of controlling them. The systematic relationships of the causal fungi are also given proportionate attention, thus laying the foundation for advanced studies and for practical disease control work in the United States. Prerequisites, Botany 1a, 1b, 1c, or 2a, 2b, 2c. Two recitations and two two-hour laboratory periods a week.

Laboratory fee, \$3.00.

5 Taxonomy (2, 6, 4) 4 credits Fall term

The systematic arrangement and classification of the ferns and their allies and especially of the higher flowering plants. The structure and relationship of weeds, grasses, grains and other plants of economic importance will be emphasized. Prerequisite, Botany 1a, 1b, 1c or 2a, 2b, 2c. Two recitations and two three-hour laboratory periods a week.

Laboratory fee, \$2.00.

6 Weeds (1, 6, 2) 3 credits Fall term

The aim will be to acquaint students with our more common weeds and methods of control. Numerous field trips will be made in the early fall. Prerequisite, Botany 1a, 1b, 1c, or 2a, 2b, 2c. One recitation and three two-hour laboratory periods a week.

7 Plant Histology (0, 12, 0) 4 credits Winter term

The work will consist in the imbedding, sectioning, and staining of tissues from the various groups of plants. Text-book: Chamberlain's Methods in Plant Histology.

Laboratory fee, \$4.00.

8 Heredity (4, 0, 8) 3 credits Fall term

The principles of variation and heredity, their bearing upon the theory of organic evolution and their applications by man. This course is open to all students who have had one year of biology. Four recitations a week. Text book: Babcock and Clausen's Genetics in Relation to Agriculture.

9 Botany Seminar 1 credit Each term

Reviews of current research in the various divisions of botany. Hours to be arranged. A two-hour session per week. Prerequisites as in Botany 10, or equivalents.

10 Advanced Botany and Research 3 to 5 credits Each term

Prerequisites, Botany 1a, 1b, 1c, or Botany 2a, 2b, 2c, and that course of the following which supports the advanced work desired, viz.: Taxonomy, Physiology, Plant Diseases, Plant Histology, or Heredity. Two and three credit courses will be class work, while four and five credit courses will usually consist of research work.

Laboratory fees, \$1.00 per credit when laboratory work is involved in work elected.

CHEMISTRY

PROFESSOR DUNBAR; ASSOCIATE PROFESSOR BINNEWIES;
ASSISTANT PROFESSOR WALTER; MR. WELLS; MR. FARLEY

It is the aim of the department to give the student a general training, so far as our required courses are concerned, in the elementary principles of the science, especially as applicable to the problems he may be expected to meet in relation to the work of an instructor of agricultural subjects, and to the work of his more advanced courses in other lines of study. We also design our courses with a view to technical and analytical preparation for students who purpose to enter commercial and experimental careers along chemical lines. With such aims in view, the department stresses the practical rather than the theoretical application of chemistry, although such degree of importance is attached to the latter phase of the study as to make the work adaptable to higher investigational courses, should the student incline toward such further study of chemistry. Our advanced and elective courses are designed especially for training for those who purpose to study pharmacy,

medicine and food problems, and for those who are looking toward technical positions in manufacturing plants or in experiment station work.

The following is a brief description of the courses offered:

1a Inorganic Chemistry (3, 3, 3) 3 credits Fall term
General chemical laws and study of non-metallic elements. Laboratory work stresses qualitative properties and tests. Prerequisite, freshman standing. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Walter; Mr. Farley.

Laboratory fee, \$3.00, deposit, \$2.00.

1b Inorganic Chemistry (3, 3, 3) 3 credits Winter term
Continuation of 1a. Study of metallic elements with laboratory work devoted to study of properties, commercial uses, and qualitative determination of the metals. Prerequisite, Chemistry 1a. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Walter; Mr. Farley.

Laboratory fee, \$3.00, deposit \$2.00.

1c Inorganic Qualitative Analysis (3, 3, 3) 3 credits Spring term
Continuation of 1a and 1b. Analysis of mixtures of common inorganic compounds, with review of entire subject of Inorganic Chemistry. Prerequisite, Chemistry 1a and 1b. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Walter; Mr. Farley.

Laboratory fee, \$4.00, deposit \$2.00.

2 Elementary Organic Chemistry (5, 5, 5) 5 credits Fall term
General course covering essentials of the subject as applicable to work in Pharmacy, Agriculture, and Domestic Science. Laboratory work largely qualitative. Prerequisite, Chemistry 1a, 1b, 1c. Five recitations and five laboratory hours a week. Mr. Binnewies; Mr. Dunbar; Mr. Walter.

Laboratory fee, \$5.00, deposit \$2.00.

3 Quantitative Analysis (1, 8, 0) 3 credits Winter term
Mainly devoted to gravimetric manipulation of inorganic types, with simple problems in volumetric analysis at close of term. Prerequisite, Chemistry 1a, 1b, 1c. Nine laboratory hours a week, one of them devoted to a lecture upon the explanation of principles involved and methods of attack.

Laboratory fee, \$3.50, deposit, \$2.00.

4 Volumetric Analysis (0, 9, 0) 3 credits Spring term
Continuation of Chemistry 3 and wholly given over to commercial and volumetric analysis of common inorganic materials. Prerequisite, Chemistry 1a, 1b, 1c, 3. Elective. Nine hours of laboratory work a week. Mr. Walter.

Laboratory fee, \$2.00, deposit, \$2.00.

6 Chemistry of Foods and Nutrition (3, 3, 6) 4 credits Winter term

Study of elementary problems in Physiological Chemistry as related to nutrition, digestive processes and metabolism in general, with special stress upon laboratory work connected with study of nutrients and food values. A course especially aimed to cover problems arising out of work in Domestic Science Courses. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three lectures and three laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$3.50, deposit, \$2.00.

7a Advanced Organic Chemistry (3, 6, 6) 5 credits Fall term

Intensive study of Aliphatic types, with laboratory work devoted to practice upon well-known synthetic methods. Course aimed toward industrial application and preparation for medical study. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three recitations and six laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

7b Advanced Organic Chemistry (3, 6, 6) 5 credits Winter term

Continuation of 7a, but may be taken as a unit course. Aromatic Types. Laboratory work upon synthesis of these types. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three recitations and six laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

7c Advanced Organic Chemistry (2, 9, 4) 5 credits Spring term

Continuation of 7b. Aromatic Types, with special reference to dyes. If time permits, qualitative work in identification of organic groups typical for different common organic compounds will be offered. Prerequisite, Chemistry 1a, 1b, 1c, 2, 7b. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

8 Proximate Organic Analysis (0, 9, 0) 3 credits Winter term

Quantitative analysis of cereals, dairy products, beverages, fungicides, insecticides, food adulterants. Prerequisite, 1a, 1b, 1c, 2, 3. Nine hours of laboratory a week. Mr. Wells.

Laboratory fee, \$3.50, deposit \$2.00.

9 Water Analysis (0, 9, 0) 3 credits Spring term

Sanitary and complete analysis of waters, to determine potability or value as boiler waters. Preparation of reports of such analysis. This course should be preceded or accompanied by a course in bacteriological analysis of water. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Nine laboratory hours a week. Mr. Wells.

Laboratory fee, \$4.00, deposit, \$2.00.

10 Agricultural Chemistry (3, 3, 6) 4 credits Fall term

A study of the application of chemical laws, methods and principles to problems which are essentially agricultural. Prerequisite,

Chemistry 1a, 1b, 1c, 2, 3. Three recitations and three laboratory hours a week. Mr. Wells.

Laboratory fee, \$2.00, deposit, \$2.00.

11 Inorganic Technology (3, 0, 6) 3 credits Fall term

A study of inorganic technical and commercial processes. Offered in odd-numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Three recitations or lectures a week. Mr. Binnewies.

12 Physical Chemistry (3, 6, 6) 5 credits Spring term

Elementary course including molecular weight determinations, conductivity and electrolytic dissociation, equilibrium, polarimetry, spectroscopy, refractometry. Offered in odd-numbered years only. Prerequisite, 1a, 1b, 1c, 3, and Physics 1a, 1b, 1c. Three lectures and six laboratory hours a week. Mr. Farley.

Laboratory fee, \$5.00, deposit, \$2.00.

13 Organic Technology (3, 0, 6) 3 credits Winter term

A study of commercial and technical methods in the preparation of organic materials. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three lectures or recitations a week. Offered in even-numbered years only. Mr. Binnewies.

14 Physiological Chemistry (2, 6, 4) 4 credits Spring term

Work in metabolism, ferment action, digestive processes, nutrition, urinalysis, and like physiological phases of chemical application. An advanced course for students preparing for medical work and for advanced students in Domestic Science. Prerequisite, Chemistry 1a, 1b, 1c, 2 or 6. Mr. Walter.

Laboratory fee, \$5.00, deposit, \$2.00.

15 Technical Analysis (0, 12, 0) 4 credits Spring term

Technical methods of analysis of paints, varnishes, lubricants, oils, fuels, iron and steel alloys. Offered in even numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3, 4. Twelve laboratory hours a week. Mr. Walter.

Laboratory fee, \$5.00, deposit \$2.00.

16 Advanced Qualitative Analysis (2, 6, 4) 4 credits Winter term

Involving more difficult phases of analysis and stressing modern theories of mass action, ionic systems, etc. Offered in odd-numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 12 and Physics 1a, 1b, 1c. Two recitations and six laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$3.00, deposit, \$2.00.

17 Chemical Problems (3, 0, 6) 3 credits Spring term

Study of the more common calculations encountered in Pharmacy and Quantitative Chemistry. Prerequisite, Chemistry 1a, 1b. Two reciations a week. Mr. Wells; Mr. Walter.

18 Thesis (0, 15, 0) 5 credits Spring term

Required of all students majoring in Chemistry. Topic to be assigned. Fifteen laboratory hours a week. Prerequisites depend upon nature of work assigned. Mr. Dunbar.

Laboratory fee, dependent upon nature of work assigned.

CIVIL ENGINEERING

PROFESSOR SNADER

The course in Civil Engineering is planned to give a broad education in both general and scientific subjects, and a thorough training in the principles underlying all engineering, with as much special training as time will permit in those subjects belonging particularly to the field of the civil engineer.

Nearly all of the time of the junior and senior years is devoted to purely engineering subjects, the greater portion of the student's work being under the direct supervision of the Civil Engineering Department. In the senior year a choice is made of one of the two groups of subjects, Structural Engineering and Highway Engineering. Increased interest in road-building throughout this state, as well as in other states, makes it desirable that men wanting to specialize in Highway Engineering be given the opportunity to do so.

The department is provided with suitable field and drafting room equipment, including transits, levels, plane-table, solar attachment, compasses, sextant, current meter, planimeter, tapes, rods and other hand instruments.

A detailed description of each subject offered by the department follows:

1 Plane Surveying (0, 9, 0) 3 credits Spring term

Lectures, field and office work in the theory and practice of plane surveying. Field work with tape, level and transit. Much emphasis is placed on a high standard in form and style of the student's field notes and office calculations. Prerequisite, Mathematics 3 and Mechanical Engineering 3a, 3b. Nine hours of field work a week. Mr. Snader and assistant.

Laboratory fee, \$2.00.

2 Topographical Surveying (0, 9, 0) 3 credits Fall term

Continuation of Plane Surveying with considerable practice in leveling, use of the transit, and in baseline measurements and triangulation. A study of the theory and use of the stadia and plane table. Determination of contours for topographic map. Prerequisite, Civil Engineering 1. Nine hours of field and office work a week. Mr. Snader and assistant.

Laboratory fee, \$2.00.

3 Topographical Drawing (0, 3, 0) 1 credit Spring term

Engineering lettering and pen topography; a study of scales and contours; the plotting of profiles from contour plans; and the construction of a complete topographic map. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1922. Prerequisite, Civil Engineering 1 and 2. Three hours of drawing a week. Mr. Snader.

4 Hydraulics (4, 0, 8) 4 credits Fall term

Hydrostatics and theoretical hydraulics. The flow of water through orifices, tubes, pipes, open channels, and over weirs. Losses of head due to frictional and other resistances. Prerequisite, Physics 1a, 1b, 1c, Mathematics 4, 5a, and 5b. Four recitations a week. Mr. Snader.

5 Graphic Statics (1, 6, 2) 3 credits Winter term

The graphical method of determination of the center of gravity and moment of inertia of cross sections and reactions, moments and shears in beams, trusses and arches. Prerequisite, Physics 1a, 1b, 1c, Mathematics 6, Mechanical Engineering 5, and Civil Engineering 6a, or 6a simultaneously. Eight hours a week. Mr. Snader and assistant.

6a, 6b Mechanics of Materials (3, 0, 6) 3 credits Winter term
(3, 0, 6) 3 credits Spring term

A study of the strength and elastic properties of timber, brick, stone, cast iron, wrought iron and steel. The theory of beams, columns and shafts; a study of combined stresses, impact and fatigue, true internal stresses, the application of the principle of least work and the solution of problems. Prerequisite, Mathematics 5a, 5b and 6. Three recitations a week second term; three recitations a week third term. Mr. Snader.

7 Railroad Surveying (3, 0, 6) 3 credits Winter term

Reconnaissance, preliminary location methods, theory of curves and turnouts. The computation of earth-work and the estimate of costs. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1922. Prerequisite,

Civil Engineering 1, 2 and 3, and Mathematics 5a and 5b. Three recitations a week. Mr. Snader.

Laboratory fee, \$1.00.

8 Stresses (3, 0, 6) 3 credits **Spring term**

The analytic method of determination of stresses in roof and bridge trusses under dead, live and wind loads. Locomotive wheel loads on plate girders and bridge trusses. Prerequisite, Civil Engineering 5, 6a and 6b. Three recitations a week. Mr. Snader.

9 Masonry and Reinforced Concrete (3, 0, 6) 3 credits **Fall term**

A study of the manufacture and use of cement, the proportioning and properties of concrete; the occurrence of the common building stone, and the proper use of them in walls, foundations and other engineering structures. Prerequisite, Civil Engineering 6a and 6b. Three recitations a week. Mr. Snader.

10 Reinforced Concrete (3, 0, 6) 3 credits **Winter term**

The theory and design of reinforcement concrete and applications to various types of engineering structures. Prerequisite, Civil Engineering 6a, 6b and 9. Three recitations a week. Mr. Snader.

11a, 11b Bridge Design (1, 6, 2) 3 credits **Fall term**
(1, 3, 2) 2 credits **Winter term**

Theory, designing and detailing; the making of general and detailed drawings for a plate girder, the designing and drawing of a highway bridge, and the design and making of drawings for a reinforced concrete bridge. Prerequisite, Civil Engineering 5, 6a, 6b and 8. One recitation and six hours of laboratory work a week, fall term; one recitation and four hours of laboratory work a week, winter term. Mr. Snader.

12 Roads and Pavements (3, 0, 6) 3 credits **Fall term**

The location, construction, and maintenance of highways and streets. Types and methods of construction and maintenance. Road building machinery. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1921. Prerequisite, Civil Engineering 1 and 2, and Mechanical Engineering 3a, 3b. Three recitations a week. Mr. Snader.

13 Water Supply (3, 0, 6) 3 credits **Fall term**

The study of the principles underlying the selection of a pure water supply; and a study of the proper design, construction and operation of municipal water supply systems. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1922. Prerequisite, Civil Engineering 1 and 4, or 4 simultaneously, and Chemistry 1a, 1b, 1c. Three recitations a week. Mr. Snader.

14 Sewerage (3, 0, 6) 3 credits Winter term

The study of the principles involved in the selection, design, construction and operation of an efficient municipal sewerage disposal system. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1921. Prerequisite, Civil Engineering 4 and 13. Three recitations a week. Mr. Snader.

15 Irrigation Engineering (2, 0, 4) 2 credits Spring term

The principles of irrigation engineering; design, construction, maintenance and operation of works for holding and controlling the water needed for agriculture. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1921. Prerequisite, Civil Engineering 4. Two recitations a week. Mr. Snader.

16 Highway Engineering (2, 0, 4) 2 credits Winter term

Theory, location, planning, design. Economics of location; theory and design of highways. Effects of traffic. Properties, comparisons and selection of type of roads and pavements. Inspection and supervision of construction. Prerequisite, Civil Engineering 12. Two recitations a week. Mr. Snader.

17 Highway Engineering (2, 0, 4) 2 credits Spring term

Location, design, financing, organization and administration. Comparisons of roads and pavements, design. Study of standard and special specifications. Problems of financing highway improvements, methods of financing, character and planning of organization, administration methods and systems. Prerequisite, Civil Engineering 16. Two recitations a week. Mr. Snader.

18 Railroad Surveying (0, 6, 0) 2 credits Spring term

A continuation of Civil Engineering 7. Actual field practice in the location of a short line of railroad, from the reconnaissance to the final location, and the making of the necessary maps and profiles. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1922. Prerequisite, Civil Engineering 1, 2, 3 and 7. Six hours of field work a week. Mr. Snader.

Laboratory fee, \$2.00.

19 Structural Steel Design (1, 6, 2) 3 credits Spring term

Lectures on shop practice in making drawings. Theory and actual practice in designing connections, the design of beams, bearings, columns, girders, grillage foundations and roof truss. Prerequisite, Civil Engineering 5, 6a, 6b and 8. One recitation and six hours drawing a week. Mr. Snader.

20 Higher Structures (2, 0, 4) 2 credits Spring term

A study of continuous, draw, cantilever and suspension bridges, and metallic arches. The theory and design of masonry dams and arches. Prerequisite, Civil Engineering 5, 6a, 6b, 8 and 11a, 11b. Two recitations a week. Mr. Snader.

21 Contracts and Specifications (1, 0, 2) 1 credit Spring term

Synopsis of the law of contracts as applied to engineering construction; a study of typical contracts and specifications, and survey descriptions. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1921. Prerequisite, junior standing in engineering. One recitation and lecture a week. Mr. Snader.

22 Scientific Management (1, 0, 2) 1 credit Fall term
(1, 0, 2) 1 credit Winter term

Principles of scientific management of industry and engineering works. Scope of the science of management; location and planning of plants and equipment. Fundamental considerations as to men, materials, methods and costs. Determination and distribution of material and labor costs. Open only to junior and senior civil engineering students. One recitation and lecture a week. Mr. Snader.

COMMERCE

PROFESSOR PRATHER; MISS UMMEL

The Department of Commerce offers a complete college course leading to the degree of Bachelor of Science in Commerce, and a one year vocational course for those who must enter business with less preparation than a full college course. Freshman standing is required for entrance to both courses.

Never in the history of our country were young men and young women in greater demand in commercial lines than at the present time, and we believe that in order to achieve the largest measure of success, and to perform his duties to himself and society, the business man should have a broad, general education as well as a course adapted to specialized business. Such preparation has been provided for in the four years course. See plans of study of college courses.

This course is also intended to train those expecting to become commercial teachers, since the requirements of many

A one year vocational course in the department is offered for the benefit of those who are unable to complete the four years course. Upon the completion of this course, which is outlined below, the student will be given a certificate.

1a, 1b, 1c	Accounting	(0, 6, 3) 3 credits	Each term
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2 Business Law	(3, 0, 6) 3 credits	Fall term
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3 Business Organization and Control (3, 0, 6) 3 credits Winter term

4	Money and Banking	(3, 0, 6) 3 credits	Spring term
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5a, 5b, 5c	Shorthand	(5, 0, 10) 5 credits	Each term
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This course continues through the year and cannot be entered after the second week of the fall term unless the student has carried the subject at some other time and is able to take up the work with the class. Gregg Shorthand is taught. Prerequisite, freshman standing. Five recitations a week. Miss Ummel.

6a, 6b, 6c Typewriting

Each term

Typewriting is required of all students taking Shorthand. Graded exercises to learn "touch method" are first given. Care of machine; correspondence and legal forms; billing and tabulating; manifold and mimeographing. Five or ten hours a week. Ten hours a week are required in the Vocational Course, for which three credits are given. Limited credit subject. Miss Ummel.

Laboratory fee, \$2.00 per term.

7 Secretarial Practice

No credit

Spring term

As far as possible practice with college officers or business firms in town. Also a great deal of class room practice in taking dictation and transcribing on the typewriter. Two dictaphones are in use in this course. Mr. Prather and Miss Ummel.

8 Pharmaceutical Accounting

(0, 4, 2) 2 credits

Fall term

This course is given only to students taking the courses in Pharmacy. Four hours of recitation and laboratory work a week. Mr. Prather.

One Year Vocational Course**September 26, 1921 to June 15, 1922**

	Fall	Winter	Spring
Shorthand, Commerce 5a, 5b, 5c-----	5	5	5
Typewriting, Commerce 6a, 6b, 6c-----	3	3	3
Rhetoric, English 1a, 1b, 1c-----	3	3	3
Business Law, Commerce 2-----	3		
Business Organization and Control, Commerce 3		3	
Money and Banking, Commerce 4-----			3
Accounting, Commerce 1a, 1b, 1c-----	3	3	3
Secretarial Practice, Commerce 7-----			0
	—	—	—
	17	17	17

DAIRY HUSBANDRY

*PROFESSOR LARSEN; ASSISTANT PROFESSOR WRIGHT;
ASSISTANT PROFESSOR OLSON; MR. JOHNSON; MR.
CULHANE

This department offers two separate courses: (1) The four years agricultural course, the last two years of which are devoted chiefly to special dairy studies. (2) The three months creamery course.

*Given leave of absence December 19, 1920.

The first course has been outlined with a special view of fitting young men to become teachers and investigators of dairying in public schools, agricultural colleges and experiment stations, inspectors of creameries and dairy products in municipal, state and government service and superintendents of creameries and dairy farms. In this course either dairy production or dairy manufactures may be specialized in. The choice must be made at the beginning of the junior year and the same line followed during the senior year. For graduation there is required at least one summer's work either on a dairy farm or in a creamery or other dairy plant depending on the work in which the student is specializing.

The second course is given with a view of training men to become successful operators of creameries, cheese factories, central plants and dairy farms. (See page 107.)

The demand for good men properly trained along dairy lines is great. Compensation for dairy and creamery work is good. Worthy students can depend upon the co-operation of the department in securing suitable work.

The Dairy Husbandry Department operates on a commercial basis a well equipped creamery in which butter, cheese and ice cream are manufactured throughout the year. The department occupies a two-story brick building. On the first floor are the engine room, creamery rooms with full equipment for butter, cheese and ice cream making, refrigerating rooms, locker room, and a large laboratory used for instructional purposes. On the second floor are located class rooms, offices, dairy bacteriology laboratory, chemistry research laboratory and reading room.

The dairy herd, which consists of representatives of the principal dairy breeds, affords an excellent opportunity to become acquainted with dairy types. The dairy barn is large and well equipped. Milking machines are in daily use, thus affording students opportunity to acquire practical knowledge regarding machine milking.

Experiments relating to feeding, breeding and care of dairy stock and the manufacture of dairy products are in

progress at all times. Students may have the advantage of keeping in touch with these experiments, note manner of outlining and executing investigational work, and profit from results. Advanced worthy students may arrange to assist in some of this work.

The following work is offered:

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|--------|----------------------|---------------------|-------------|
| 1a, 1b | Farm Dairying | (2, 3, 4) 3 credits | Fall term |
| | | (2, 3, 4) 3 credits | Spring term |

Testing of milk and its products for fat, acid and common adulterations. Study of cream separators, farm buttermaking and cottage cheese. Study of the purpose and importance of dairy farming; breeds of dairy cattle and characteristics of each; care and feeding of the dairy herd; management of the dairy herd; disposing of dairy products. Study of breed type and conformation and the judging of dairy cattle. Text: Larsen's Farm Dairying. Two recitations and three hours of laboratory work a week. Mr. Olson.

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| 2 | Dairy Inspection | (3, 6, 6) 5 credits | Fall term |
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Thorough study of Babcock test for fat; lactometer and its application; tests for acidity of dairy products; tests for moisture in butter; influence and detection of different preservatives and adulterations; scoring butter, cheese and milk. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

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|---|---------------------------|---------------------|-------------|
| 3 | Dairy Bacteriology | (2, 6, 4) 4 credits | Winter term |
|---|---------------------------|---------------------|-------------|

Bacteriological principles as related to dairying; contamination of milk; fermentations of milk and their control; relation of disease bacteria to milk; preservation of milk for commercial purposes; bacteria as related to the manufacture of butter, cheese and ice cream. Prerequisite, Dairy 1 and General Bacteriology. Two recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

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|---|------------------------------|---------------------|-------------|
| 4 | Manufacture of Butter | (3, 6, 6) 5 credits | Spring term |
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Receiving, sampling and separation of milk and cream; preparation and use of starters; pasteurization and ripening of cream; principles of churning; washing, salting, working, packing and marketing of butter. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright; Mr. Culhane.

Laboratory fee, \$2.00.

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|---|------------------------------|---------------------|-----------|
| 5 | Manufacture of Cheese | (3, 6, 6) 5 credits | Fall term |
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Study of milk as applied to cheese-making; manufacture of hard and soft cheeses; principles involved in the setting, cutting, cooking, dip-

ping, milling, salting, pressing, curing and marketing of cheese. Given every other year. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

6 Dairy Management (2, 3, 4) 3 credits Spring term

Methods of improving the dairy herd; methods of keeping records of feed, milk and the dairy herd. Extent to which dairy farming is practiced and under what conditions it is best applicable. Arrangement and construction of dairy farm buildings; details of herd management; advanced judging of dairy cattle. Text: Larson & Putney's Dairy Cattle Feeding and Management. Prerequisite, Dairy 1. Two recitations and three hours of laboratory work a week. Mr. Olson.

7 Dairy Technology (3, 6, 6) 5 credits Fall term

A study of market milk and ice cream making. Also the utilization of milk and its products outside of the scope ordinarily embraced under dairying; value of milk as a food; preparation of certified, modified, standardized, fermented, and condensed milk; the manufacture of casein, milk ivory, milk sugar, renovated butter and oleomargarine. Given every other year. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

8 Dairy Research (2, 0, 4) 2 credits Winter term

Views held by different authorities on important dairy subjects; a digest of recent dairy work of the experiment stations; comparative dairying as practiced in the leading countries; reference and reports. Prerequisite,, Dairy 1, 2, 3, 4, and 6. Mr. Wright; Mr. Olson.

9 Dairy Practice

Credit will be given for a suitable report of satisfactory work in a commercial creamery or other dairy plant. Students specializing in dairy manufactures must have some practical experience of this nature.

10 Domestic Dairying (1, 3, 2) 3 credits Fall term

Such phases of dairying as will be of greatest interest and value to ladies and home life; properties and uses of milk and its component parts in the home and for commercial purposes; relation of germs to quality of milk from consumers' standpoint; effects and detection of adulteration of dairy products; care and handling of dairy products in the home; making and judging of cheese and butter. Prerequisite, Chemistry 1a, 1b, 1c. One recitation and three hours of laboratory work a week. Mr. Olson.

11 Advanced Inspection of Dairy Products

(1, 9, 2) 4 credits

Winter term

Properties of the component parts of milk and its products; condensed and powdered milks; butter from neutralized cream; leading types of cheese; brief survey of the milk of other animals than the cow; abnormal milk; substitutes for butter; determination of the important constants of butter fat. Text: Richmond, Dairy Chemistry. Prerequisite, Dairy 2 and Quantitative Chemistry. One recitation and nine hours of laboratory work a week. Mr. Johnson.

Laboratory fee, \$2.00.

12 Advanced Dairy Bacteriology (2, 6, 4) 4 credits

Spring term

A continuation of Dairy Bacteriology (Dairy3); isolation of the bacteria of special importance in the dairy industry; characteristics of the bacteria that cause undesirable fermentations, bitter milk, slimy milk, gargetty milk, gassy cheese, rancid butter, etc.; pathogenic organisms of importance in connection with market milk supply; desirable bacteria in milk; pure cultures widely used in connection with fermented milk drinks. Prerequisite, Dairy 1, 2 and 3. Two recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

13 Advanced Judging of Dairy Cattle and Dairy Products

(0, 6, 0) 2 credits

Fall term

A course designed to acquaint the student with features of show ring judging. A close study of breed types and characteristics; practice in giving oral and written reasons; competitive judging. The judging of cheese, butter and milk will be on the basis of the score cards used by the U. S. Department of Agriculture with special attention paid to the rules of the contest held at the National Dairy Show. Students expecting to take this course should notify the department before September 1st, as a part of the work is given in connection with the State Fair preparing a team to represent the college in the students National Judging Contests. Prerequisite, Dairy 2 or 6. Open only to Juniors and Seniors. Six hours of laboratory work a week. Mr. Wright; Mr. Olson.

14 Dairy Seminar

(2, 0, 4) 2 credits

Spring term

General discussion of important dairy subjects; outside references and frequent reports and papers required; modern trend of the dairy industry. Prerequisite, Dairy 1, 2, 3, 4 and 6. Two recitations a week. Staff.

15 Dairy Cattle Feeding

(3, 0, 6) 3 credits

Fall term

Study of milk production and secretion; feeding standards; dairy feeds; methods of preparing feeds and feeding dairy cattle. Prerequisite, Animal Nutrition. Mr. Olson

16 Advanced Study of the Dairy Breeds

(3, 0, 6) 3 credits Winter term

Origin, history and characteristics of the leading dairy breeds. Study of breed families, and noted producers and show ring winners. Study of leading breeders, and their contribution to the breed. Prerequisite, Dairy 6. Mr. Olson.

17 Management of Dairy Plants (2, 3, 4) 3 credits Spring term

Organization and construction of factories; creamery refrigeration; purchases of raw material, other factors in management. Text: Mortensen, Management of Dairy Plants. Prerequisite, senior standing. Mr. Wright.

THE THREE MONTHS CREAMERY COURSE**January 3 to March 23, 1922**

This course is especially designed for young men wishing to fit themselves for various positions connected with the creamery industry such as helpers, buttermakers and managers.

Prospective students are urged to get at least six months of practical experience in some creamery before attending College, as by this means it is found that much greater benefit is derived from the work at school.

The more general application of scientific principles to the manufacturing industries as well as the increasing competition on all sides demands a more thorough training in scientific and business methods than heretofore. This is no less true with regard to the creamery industry; and while the practical work of the school is by no means neglected special pains are taken to teach the underlying principles and the "reason why" for many of our daily operations. The increasing interest in dairying in South Dakota is creating a demand for men well trained along dairy lines, and applications for such are constantly being received at excellent salaries. Worthy students may count on the co-operation of the dairy department in helping them to secure positions at the close of their college work.

The following work is offered:

Factory buttermaking and creamery management.
Testing milk and its products.
Dairy bacteriology.
Breeding, feeding and management of dairy cattle.
Creamery mechanics.

The tuition is four dollars for the three months' term with a small additional fee for laboratory expenses.

A certificate of standing will be issued to all students passing satisfactory examinations on the above subjects.

Address the Dairy Husbandry Department for special bulletin describing this course and other work of the Dairy department.

EDUCATION

PROFESSOR GRIFFIN; PROFESSOR PIERSON; PROFESSOR KNIGHT; ASSISTANT PROFESSOR WISEMAN; ASSISTANT PROFESSOR McArthur; ASSISTANT PROFESSOR HARTNETT.

The purpose of the Department of Education is to train teachers, supervisors, principals and superintendents for the schools of South Dakota, with an especial emphasis given to a thorough preparation of an adequate supply of agricultural, home economics, and industrial teachers for vocational schools and departments.

Students wishing to receive the Bachelor of Science degree in any of the teacher training courses under the Smith-Hughes law and the accompanying vocational teaching certificate in agriculture or home economics can do so by completing the respective four years course for graduation as outlined in the schemes of study for Teacher Training. (See schemes of study.)

Those desirous of obtaining the regular state certificate for South Dakota should elect the equivalent of fifteen semester hours work in the Department of Education (not omitting educational psychology, principles of teaching, history of education, observation and practice teaching).

The Department is housed in the new wing of the Agricultural and Administration Building, with excellent classrooms and laboratory facilities.

The School of Agriculture, a secondary school offering a four years course, is an adjunct and offers excellent opportunities for observation, practice teaching and laboratory work in the various courses. Arrangements have been made with the Brookings High School for additional observation and practice teaching facilities.

The Bureau of Educational Cooperation maintains close contact with the practical school field and gives various types of training in service. In addition, placement service is given and cooperative research encouraged.

The following courses are designed to give thorough preparation in scientific education to prospective teachers and educational leaders:

1 Educational Psychology (4, 0, 8) 4 credits Fall term

A systematic course treating of the fundamental laws of learning in animals and man, the effects of practice, the rates and limits and transfer of improvement, conditions for economical learning, measurements of progress in school subjects, mental fatigue and mental hygiene. No previous work in psychology is required. Lectures, recitations, readings and laboratory exercises. Mr. Griffin.

2 Principles of Teaching (4, 0, 8) 4 credits Spring term

An application of the principles of psychology to the technique of instruction; observations of these applications in the practice school; discussion of various types of lessons, criticism of stenographic reports of recitations, motivation and project teaching; planning lesson syllabi, examinations, etc. Lectures, readings, recitations, observations and reports. Mr. Griffin.

3 Vocational Agricultural Education (3, 0, 6) 3 credits Winter term

This course deals particularly with the organization and administration of departments of vocational agriculture in our high schools. Enough of the history of agricultural education is given so that the student may interpret the problems of today in that field. Study is made of aims, course of study, teacher qualifications, types of schools, etc., under state and federal requirements. Lectures, readings, discussions, special reports and observations. Mr. Wiseman.

4 History of Education (4, 0, 8) 4 credits Winter term

A study of educational practice and progress considered as a phase of the development and spread of western Civilization, not a course in the history of educational theory. Most of the work will center around the last fifty years with especial emphasis on the scientific movement in Education in America since 1900. Considerable laboratory work will be done. Texts: Cubberley's History of Education and Readings in the History of Education, published 1920. Prerequisite, Junior standing. Required of all students seeking a certificate to teach. Lectures, readings, reports and laboratory exercises. Mr. Griffin.

5 Educational Administration (4, 0, 8) 4 credits Winter term

This course aims to acquaint the student with the sources and typical examples of the literature of school administration, the principal problems in the field, and the current statistical and measuring methods of treating these problems. Discussion will include the basic principles of business administration and organization, problems of central administration, functions of the various members of the school staff, financing the public schools, business management, the teaching staff, grading and promoting pupils, the measuring movement, school records and reports, study of the educational system of South Dakota and examination of several typical South Dakota schools. Text: Cubberley's Public School Administration supplemented by numerous bulletins and reports. Prerequisite, Junior standing. Lectures, recitations, readings, reports and laboratory exercises. Mr. Griffin.

6 Special Methods in Teaching Vocational Agriculture
(3, 0, 6) 3 credits Fall term

This course deals particularly with teaching vocational agriculture in Smith-Hughes schools, aims, course of study, selection and ordering of subject matter, methods in field, laboratory and class room. Special attention given to the home project as a type of supervised practice work. Lectures, required readings, discussions, reports, observations and laboratory work. Mr. Wiseman.

7 Theory and Practice in Teaching Home Economics
(3, 0, 6) 3 credits Fall term

Prerequisites are Educational Psychology, History of Education and Principles of Teaching. Study of the standards and special methods, types of schools, courses of study, lesson plans, observation reports, school organization and management in relation to Home Economics teaching. Discussions, observations, readings and demonstrations. Miss McArthur.

8 Theory and Practice in Teaching Home Economics
(3, 0, 6) 3 credits Winter term
Continuation of Education. Miss McArthur.

9 Practice Teaching in Home Economics

(3, 3, 3) 3 credits Any term

Required of students taking Teachers Training Course in Home Economics. This course runs parallel to courses 7a and 7b. Students are given the responsibility of taking part or full charge of classes in sewing and cooking in the public schools and in the School of Agriculture. Three teaching periods a week. Miss McArthur.

10 Practice Teaching in Vocational Agriculture

(-, -, -) 2-5 credits Any term

Open to Seniors who have had twelve hours or equivalent in education. Daily lesson plans carefully inspected and followed by teaching. Practice teaching in secondary School of Agriculture and in City High School of Brookings. This school has a bona fide Smith-Hughes Agriculture Department. Careful supervision. Two to five hours teaching a week with individual conferences. Mr. Wiseman.

11 Educational Sociology

(4, 0, 8) 4 credits Spring term

A study is made of the ever changing social order and its institutions, emphasizing the educative functions of each. Study will be made of the increasing social demands on the school as an institution and the extent of the means and methods by which it endeavors to meet these demands thru socialization of its organization, curriculum, methods and activities. Special attention will be given to the development of vocational education as a phase of this process. A study of actual surveys will be made. Lectures, discussions, readings and reports. Mr. Wiseman.

12 Rural Education

(4, 0, 8) 4 credits Spring term

Rural life conditions, need for rural life organization, fundamental principles involved, noteworthy examples of new types of rural school organization, new curricula, the new teacher,, new buildings, etc. Lectures, readings, reports and observations. Mr. Wiseman.

13 Secondary Education

(4, 0, 8) 4 credits Fall term

A general survey of secondary schools is made; essential facts of adolescence; causes of and remedies for retardation and elimination, types of secondary schools, the Junior High School and reorganization of the curriculum, extra-curriculum activities and the socialized school, special classes, measuring results, marking systems, etc. Lectures, discussions, readings and reports. Mr. Griffin.

14 Special Problems in Agricultural Education

(-, -, -) 2-4 credits Any term

For senior and graduate students. Particular problems dealing with instruction in vocational agriculture will be chosen, such as project work, the course of study, farm enterprise analysis, the local survey, etc. A thorough study is made through readings and the work actually carried out, recorded and reported. Individual work. Mr. Wiseman.

15 Vocational Education (3, 0, 6) 3 credits Spring term

This course is a survey of the whole field of vocational education. A study is made of the economic and sociological bases for the work and the forces back of the movement with enough of the history to interpret the problems involved. Study is also made of the general types of vocational work, federal and state legislation promoting it, standards set up, teaching vocational work and relations to non-vocational work. Lectures, discussions, readings and reports. Mr. Wiseman.

16 Industrial Education (3, 0, 6) 3 credits Spring term

This course is planned for teachers and supervisors of industrial education, for superintendents and principals, and for others interested in the organization and administration of industrial courses. The course deals with the place of industrial activities and industrial training in the various levels of instruction. Pre-vocational work in the junior high school; unit trade courses in the senior high school; and continuation, cooperative, apprentice, evening and factory schools. Lectures, recitations, readings and reports. Mr. Hartnett.

17 Introduction to Educational Measurements

(0, 2, 1) 1 credit

Any term

This course is designed to give the student an acquaintance with recent developments in the line of scientific educational measurement. A study will be made of a few of the most important and widely used tests and scales. The purpose and uses of tests, their validity and reliability will receive attention. The technique of giving tests will be examined and a program will be presented for establishing a relationship between teachers' marks and the work of the student who receives them. Lectures, readings and laboratory practice. Prerequisite, consultation with the instructor. Mr. Griffin.

18 Educational Measurements (2, 4, 6) 4 credits Fall term

An intensive study of the standard test movement in education; a brief historical perspective; principles underlying the demand for standards, attempts to standardise the content of the course of study; an organization of the principal tests designed to measure the outcomes of specific studies in elementary and secondary schools; a critical discussion of validity and reliability of tests; principles of design and methods of construction, elementary statistical practice, the use of standard tests to the administrator, to the teacher, and to the surveyors. Prerequisite, Junior standing. Lectures, readings, reports, recitations and laboratory exercises. Mr. Griffin.

19 Advanced Educational Measurements

(3, 2, 7) 4 credits

Spring term

An advanced study of educational measurement and statistical methods; theory of test and scale construction; application of results to

classroom management; special problems in the field. Prerequisites, Education 18 and consultation with the instructor. Lectures, recitations, readings, reports and laboratory exercises. Mr. Griffin.

20 Genetic Psychology (3, 0, 6) 3 credits Winter term

The course treats of the development of the child's instincts and of the various modes of learning. The aim is to give a fundamental basis for the intelligent management of the child, for adjusting the child to the school and the school to the capacity and interests of the child, and for supervision of the child's learning. Learning, memorizing, speech and intellectual abilities, formal discipline, development of play, social attitudes and mental economy are some of the topics discussed. Prerequisite, Education 1. Lectures, recitations, readings and reports. Miss Knight.

21 Social Psychology (3, 0, 6) 3 credits Spring term

An application of psychological principles to the study of current sociological problems; the psychological backgrounds of current social, economic, industrial and educational questions as they vitally affect the public school. Lectures, recitations, readings and reports. Mr. Griffin.

22 Education Seminar (—, —, —) 1-4 credits Any term

Investigation of special problems by individual students capable of independent work. It consists of personal conferences and supervised laboratory work. Hours to be arranged with members of the class. Prerequisite, consultation with the Head of the Department. Mr. Griffin and others.

23 Practice Teaching in High School (—, —, —) 2-5 credits Any term

This course is designed to give practice teaching in a number of high school subjects. Arrangements must be made with the Department of Education prior to registration. Mr. Griffin and others.

Psychology

For the benefit of those students who desire a more thorough introduction to the field of psychology of a pure and descriptive nature the following elective course in General Psychology is offered. This course carries no credit in Education and cannot be counted as a part of the educational requirements for a certificate to teach. Prospective teachers should elect Education 1.

1a, 1b, 1c General Psychology

(3, 0, 6) 3 credits Fall, Winter and Spring terms

A general introductory course giving a brief survey of the principal fields of psychology. Lectures, recitations, readings and laboratory exercises. Prerequisite, Sophomore standing. Miss Knight.

Freshman Lectures

Freshman Lectures for Women $\frac{1}{2}$ credit Fall and Winter terms

This course of lectures, one hour each week during the fall and winter terms, is required of all women who are spending their first year at the college. It is under the personal direction of the Dean of Women and is intended as an aid in the development of personality, and in a quick and thorough adjustment to the ideals and standards of true womanhood. It also aims to give each woman a better understanding of herself and her capabilities, so that she may choose wisely her college course and fit herself most effectively for her life work.

ELECTRICAL ENGINEERING

PROFESSOR BRACKETT; ASSISTANT PROFESSOR PHILLIPS

The purpose of the work offered in Electrical Engineering is to impart to the student a practical knowledge of the principles of applied electricity. A well equipped laboratory is provided for the use of the student to supplement the lecture and recitation work of the class room. The laboratory equipment consists of generators and motors of both direct and alternating current types, transformers and measuring instruments of different types and classes for recording and measuring currents, pressures and speeds. A sixty-cell storage battery is used in connection with the work in photometry. Various types of lamps, arc and incandescent, lamp banks, rheostats, and other apparatus are also available.

The student will be taught how to set up and adjust for the best conditions of operation all the usual types of dynamos, motors, transformers and standard auxiliary apparatus. Much additional laboratory work will be given to develop a clear understanding of the fundamental principles involved in the design of modern electrical machinery and in the most advanced engineering practice. The knowledge to be derived from this work is very important in the practical operation of electrical machinery and systems, but it cannot be obtained directly under the conditions of commercial service, where most of the apparatus must be used in one way only at all times.

Special elective courses in a wide variety of subjects will be given whenever there is sufficient demand. Additional and advanced work may be taken in practically every line listed below. Classes may also be organized in study of current electrical journals; telephone engineering; wireless telegraph and telephone; electric traction; electric power stations; long distance transmission and in other similar lines. The prerequisite, the credit, the time and other conditions must be passed upon by the proper authorities before any of these classes will be formed.

1a Applied Electricity (0, 3, 0) 1 credit Fall term

The gasoline engine, its construction, operation, ignition system, and troubles; sources of current, coils, electro-magnets, and transformers; magnetos, direct and alternating; theory of operation and method of installation. One lecture or one three-hour laboratory period each week. Mr. Phillips.

Laboratory fee, \$1.00.

1b Applied Electricity (0, 3, 0) 1 credit Winter term

Course 1a continued. Overhauling and repairing coils and magnetos; study of generators and motors used in starting systems. One three-hour laboratory period a week. Mr. Phillips.

Laboratory fee, \$1.00.

3 Electricity and Magnetism (3, 4, 8) 5 credits Fall term

Electric and magnetic circuits; measurements of electric and magnetic properties; principles of dynamos and motors. Prerequisite, Mathematics 5b, Physics 1a, 1b, 1c, Electrical Engineering 1a and 1b. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

3a Electrical Machinery (3, 6, 6) 5 credits Fall term

Principles of electric and magnetic circuits; direct current dynamos and motors; alternating current generators, motors and transformers; methods of connecting and operating these, all very briefly studied. Prerequisite, same as for Electrical Engineering 3. This course should be taken by engineering students who do not expect to take more advanced electrical courses. Three recitations and two three-hour laboratory periods a week. Mr. Brackett.

Laboratory fee, \$2.00.

4 Direct Current Dynamos and Motors (3, 4, 8) 5 credits Winter term

Construction and operation of direct current machines, their characteristics, efficiencies and other properties. Prerequisite, Electrical

Engineering 3. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

5 Alternating Current Electricity (3, 4, 8) 5 credits Spring term

Laws of alternating currents; inductance; capacity; principles of alternating current generators, motors and transformers. Prerequisite, Electrical Engineering 4. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

6 Advanced Alternating Currents (3, 4, 8) 5 credits Fall term

Advanced study of the subjects in course 5; more complete tests of alternating current machines; study of additional types of machines. Prerequisite, Electrical Engineering 5. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

7 Electric Lighting (3, 4, 8) 5 credits Winter term

Cost of producing electric power; distribution; wiring; types of lamps; location of lamps for interior and street lighting. Prerequisite, Electrical Engineering 6. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

8 Electric Transmission and Power (3, 4, 8) 5 credits Spring term

Uses of electric motors; advantages of different types; individual and group drives; transmission; converters; substations; regulating apparatus. Prerequisite, Electrical Engineering 7. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

9 Dynamo Design (0, 12, 0) 4 credits Winter term

Computations, description and drawings for a direct current dynamo or motor. Prerequisite, Electrical Engineering 5. Twelve laboratory hours a week. Mr. Brackett.

ENGLISH

PROFESSOR MULLENBACH; ASSOCIATE PROFESSOR POWERS;
ASSOCIATE PROFESSOR MEINZER; ASSISTANT PROFESSOR
McCARTY

The required courses in English aim to give the student that command of the English language and literature which every educated person should have. But they are not intend-

ed to fit students to be teachers of high school English. Those who intend to teach some English along with their technical work should take 7a, 7b, 7c in the sophomore year and then elect in the junior and senior years at least 6a, 6b, 6c and either 8a, 8b, 8c or 9a, 9b, 9c. Those who wish to do further work in English should elect as many other courses in English as are available. Any student who wishes to do more than the required work in English should consult the head of the department for advice.

1a, 1b, 1c Rhetoric (3, 0, 6) 3 credits Each term

The main purpose of this course is to familiarize the student with the principles of rhetoric and to enable him to use them effectively in composition. To this end written work is demanded constantly, and is carefully criticized both in the class room and in conferences between the instructor and the individual student. The work is supplemented with reading, in the choice of which the student is allowed considerable latitude. Prerequisite, the English of the preparatory department; required of all freshmen. Three recitations a week. Miss Mullenbach.

2 Advanced Composition (3, 0, 6) 3 credits Spring term

This course is given as an elective for those who wish to do further work in composition. Besides being given as a regular course in (a) advanced composition, it may take a variety of other forms, depending on the needs and wishes of the majority of the class. It may be given as a course in the writing of (b) farm bulletins, or in the writing of (c) the short story, or as a course in (d) technical composition for engineers. Three recitations a week.

6a, 6b, 6c Survey of American Literature (2, 0, 4) 2 credits Each term

Every student must take this course or English 7a, 7b, 7c in his sophomore year. This course is accompanied by 20a, 20b, 20c. The course is open also as an elective for those who have taken English 7a, 7b, 7c. The method pursued will be similar to that in English 7a, 7b, 7c. Prerequisite, English 1a, 1b, 1c. Two recitations a week. Mr. Powers.

7a, 7b, 7c Survey of English Literature (2, 0, 4) 2 credits Each term

Every student must take this course or English 6a, 6b, 6c in his sophomore year. This course is accompanied by 20a, 20b, 20c. The course is open also as an elective for those who have taken English 6a, 6b, 6c. This is a general course in literature, having as its main aim to show the student the connection between literature and life. A guiding manual will be used but the chief emphasis will be placed upon typical selections from representative authors and upon the student's own pow-

ers of observation. Special reports, oral and written, upon assigned topics will be required of each student, such reports to be delivered before the class as critical audience. There will also be frequent written recitations. Any student who expects to elect further work in English should take this course in the sophomore year. Prerequisite, English 1a, 1b, 1c. Two recitations a week.

8a, 8b, 8c English Drama, Through Shakespeare

(3, 0, 6) 3 credits

Each term

The first term of this course will deal with pre-Shakespearean drama; the second and third terms will center upon Shakespeare, all studied from the point of view of development or evolution. No student should begin this course unless he intends to take the full three terms. Students may enter the course at the beginning of the second term but not at the beginning of the third. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); alternates with 9a, 9b, 9c; given 1921-22; elective. Three recitations a week.

9a, 9b, 9c Nineteenth Century Poetry

(3, 0, 6) 3 credits Each term

The first term will deal with the minor poets, the second with Tennyson, and the third with Browning. Students are advised to take the series but may take any single term of the work. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); alternates with 8a, 8b, 8c; given 1920-21; elective. Three recitations a week.

10a, 10b, 10c Modern Literature

(3, 0, 6) 3 credits

Each term

The first term will be devoted to the study of the drama, the second to the novel, the third chiefly to the short story and poetry. Any term may be taken separately. See general statement following course 11. Prerequisite, English 6a, 6b, 6c or 7a, 7b, 7c; elective. Given in 1921-22. Three recitations a week.

11 The English Novel

(3, 0, 6) 3 credits

Fall term

This course deals with the evolution of the English novel to about the end of the nineteenth century. The class will read a novel each week. Students are warned that this course will be principally reading and that the expense for text-books is likely to be higher than for other courses. Two hours recitation, remainder reading; prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); elective. Three recitations a week.

12 The English Essay

(3, 0, 6) 3 credits

Winter term

This course will be given either as a study of the general development of the English essay as seen in its chief exponents or as a specialized study of the scientific essay, according to the needs and wishes of the class. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); elective. Three recitations a week.

Courses 10a, 10b, 10c and 11, 12, 2 form a double interlocking series. Ordinarily, only one of the courses will be given each term, the particular one to be decided by the majority of the class. If, however, there is sufficient demand and the schedule will permit, both courses may be given.

13 Spencer, Milton and Pope

This course will be organized only upon demand. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); elective.

15a, 15b, 15c **Biblical Literature** (2, 0, 4) 2 credits Each term

This course aims simply at giving that knowledge of the Bible which every educated person should possess. Therefore the Bible itself is the textbook, supplemented by a book of outlines, and by a few monographs on such subjects as how the Bible has come down to us. Prerequisite, freshman standing. Two recitations a week.

20a, 20b, 20c **Extempore Speaking** (1, 0, 2) 1 credit Each term

Required of all candidates for degrees. This course accompanies English 6a, 6b, 6c and English 7a, 7b, 7c. Practice in various forms of extempore speech. Attention to selection and organization of material. The purpose of the course is to assist the student in acquiring an effective oral style—simple, clear, direct. Weekly extempore speeches are required of the class. Sections limited to 20. One recitation a week. Mr. McCarty.

21a **Argumentation and Debating** (2, 0, 4) 2 credits Fall term

The nature, kinds and tests of evidence; structure, brief-drawing. Text book. The analysis of public questions. Practice in debating. The aim is to cultivate power of analytical and constructive thinking and skill in extemporaneous speech. Attention is given to developing a simple, forceful style of delivery. Open to all students of collegiate standing. May be substituted to fulfill the requirement of 20a, 20b, 20c, by special permission. Two recitations a week. Mr. McCarty.

21b **Argumentation and Debating** (2, 0, 4) 2 credits Winter term

Continuation of 21a. Greater emphasis placed on actual work of debating. Prerequisite, English 21a. Two recitations a week. Mr. McCarty.

21c **Argumentation and Debating** (2, 0, 4) 2 credits Spring term

Continuation of 21a and 21b. Emphasis is placed on the principles and qualities of style; persuasion; ethics of discussion. More forceful and effective delivery sought. Two recitations a week. Mr. McCarty.

21d Inter-Collegiate Debating

Especially for those who expect to represent the college in inter-collegiate debating. Credit determined on basis of work done. As much

as four credits may be given to one taking part in an intercollegiate contest, upon recommendation of the instructor in charge. Mr. McCarty.

23a Advanced Extemporaneous Speaking and Debate

(2, 0, 4) 2 credits

Fall term

A study of the principles of practical public speech as revealed in great American debates; Webster-Hayne debate; Calhoun-Cass debate; Lincoln-Douglas debates. Application of these principles in class debates and in original speeches on subjects of current interest. Elective for juniors and seniors who have completed courses 20 or 21, and for others by special permission. Hours to be arranged. Two recitations a week. Mr. McCarty.

23b American Orators and Oratory (2, 0, 4) 2 credits

Winter term

The life of the orator, his relation to his age, and the elements of his power as a public speaker. The Revolutionary Period, the Civil War Period, and the Reconstruction Period. Contemporary Oratory. Elective for juniors or seniors who have completed courses 20 or 21, and for others by special permission. Hours to be arranged. Two credits a week. Mr. McCarty.

23c The Public Address

(2, 0, 4) 2 credits

Spring term

The various forms of public address—the Oration, Eulogy, Political Address, After-dinner Speech, the Occasional Address. The purpose here is to determine the elements of persuasive speech. Original work by members of the class. Open to juniors and seniors who have completed courses 20 or 21, and to others by special permission. Hours to be arranged. Two recitations a week. Mr. McCarty.

22 Oral Reading and Interpretation of Literature

(1, 0, 2) 1 credit

Fall term

A study of the expression of thought and emotion based upon literary forms. Intended to develop skill in the oral interpretation of emotional and imaginative literature. Elective. One recitation a week. Mr. McCarty.

24 The Production of Amateur Plays (2, 0, 4) 2 credits

Spring term

For those interested in producing plays in high schools, colleges or in community centers. Special attention is given to all the details of a well-acted and well-produced play. Responsibility of individual student management will be emphasized. Each student is expected to select, coach and present one play. Section limited. Elective. Two recitations a week. Mr. McCarty.

FOREIGN LANGUAGES

PROFESSOR RUEBHAUSEN

The methods employed in this department are intended to establish a broad and thorough foundation for literary and linguistic study. Constant reference is made to the relation between English and foreign languages. Thus a more perfect comprehension of our own English language is obtained.

Merely to acquire a good reading knowledge of a modern language or to study a living language from the standpoint of grammar alone no longer suffices in this day and age, when we are advancing more and more towards internationalism.

Our entrance into world affairs compels us to meet and know our neighbors across the sea, as well as those on this continent. Without a knowledge of their language and customs, an appreciation of these people, their literature, their music, their art is almost impossible. Likewise are business relations most difficult.

The time is not far distant when many Americans will be accepting positions in foreign lands, or positions in this country involving foreign business relations, with its consequent need for some knowledge of a modern language.

To meet this need the following courses are offered:

French

1a, 1b, 1c **French** (4, 0, 8) 4 credits Each term

Ear training for sounds to prepare for the spoken language. Elements of grammar and composition to assist in an intelligent understanding of the language. Conversation begun. Four recitations a week. Texts: Fraser and Squair, French Grammar; Guerber, Contes et Legendes; Adoux, Marie-Claire.

2a, 2b, 2c **French** (3, 0, 6) 3 credits Each term

Modern French writers are read. The study of grammar is continued by means of composition and conversation. Three recitations a week. Texts: Fraser and Squair, French Grammar; Aldrich and Foster, Reader; Hugo, Les Misérables; etc.

3a, 3b, 3c **French** (2, 0, 4) 2 credits Each term

Facility and accuracy of translation are sought by a study of classical and modern authors. Advanced French prose composition is studied. Conversation continued. Two recitations a week.

Spanish

1a, 1b, 1c **Spanish** (4, 0, 8) 4 credits Each term

The elements of grammar. Special attention given to pronunciation. Practical vocabulary. Easy reading material selected. Oral and written exercises based on texts read. Four recitations a week. Texts: Espinosa and Allen, *Elementary Spanish Grammar*; Harrison, *Elementary Spanish Reader*.

2a, 2b, 2c **Spanish** (3, 0, 6) 3 credits Each term

Grammar continued. Reading of modern texts. Short stories, plays, descriptions, memorizing of idiomatic prose. Oral and written exercises based on texts read. History, geography, customs and general information concerning Spain and the Latin-Americans. One main purpose in all the work is to cultivate intelligent sympathy for our Spanish-speaking neighbors. Three recitations a week. Text: Espinosa and Allen, *Grammar (continued)*; Henry, *Easy Spanish Plays*; Valera, *El Pajaro Verde*; Galdos, *Dona Perfecta*.

3a, 3b, 3c **Spanish** (2, 0, 4) 2 credits Each term

Reading of classics and commercial reader. Two recitations a week. Text: *El Reino de las Incas*.

HISTORY AND POLITICAL SCIENCE

PROFESSOR HARDING; ASSISTANT PROFESSOR YOUNG

The specific purpose of this department is to introduce the student to such studies as make him better prepared to understand and appreciate the institutions in the midst of which he lives and of which he is a part. The social sciences, in addition to their cultural value, furnish valuable training for citizenship and community leadership. The study of these sciences should encourage breadth of view, historic-mindedness and fairness of judgment. Constant endeavor is made to teach the practical application of the social, political and economic experiences of the race to the problems of modern life.

Students are encouraged in every way to make use of the college library, which is the tool house of the department.

1a **Modern History** (3, 0, 6) 3 credits Fall term

Political and social history of Europe from 1500 to 1789. A survey of the sixteenth century Europe, dynastic and colonial rivalry, European society and governments in the eighteenth century. Text book, readings, papers and reports. Prerequisite, sophomore standing. Three recitations a week. Miss Young.

1b Modern History (3, 0, 6) 3 credits Winter term

Continuation of History 1a. History of Europe from the French Revolution to 1870. French Revolution and Napoleon; era of Metternich; democratic reform and revolution; growth of nationalism to 1870. Prerequisite, History 1a. Three recitations a week.

1c Modern History (3, 0, 6) 3 credits Spring term

Continuation of History 1b. The German Empire; France under the third Republic; the new imperialism; the British Empire; international relations and the outbreak of the Great War, 1914. Prerequisite, History 1b. Three recitations a week. Miss Young.

2a, 2b, 2c English History (3, 0, 9) 3 credits Each term

A study of the development of England and the British Empire from origins to the present with special attention to the evolution of political institutions and to current problems. Prerequisite, college standing. Three recitations a week. Miss Young.

3a Industrial History of the United States

(3, 0, 6) 3 credits Winter term

A general survey of the growth of industry, agriculture, commerce, transportation, population and labor in the United States from the period of beginning until 1860. Prerequisite, sophomore standing. Three recitations a week. Bogart's Economic History of the United States, supplemented by library readings, reports and papers.

3b Industrial History of the United States

(3, 0, 6) 3 credits Spring term

Continuation of course 3a. American economic development from 1860 to the present time. Prerequisite, History 3a. Three recitations a week.

4a History of the West

(3, 0, 6) 3 credits Fall term

A study of the settlement of the West and of the influence of the West upon national development from 1815 to 1860. Prerequisite, sophomore standing. Three recitations a week. Miss Young.

4b History of the West

(3, 0, 6) 3 credits Winter term

A study of the political, social and economic development of the West from 1860 to the present. Prerequisite, History 4a. Three recitations a week. Miss Young.

5 Latin American History

(3, 0, 6) 3 credits Spring term

A study of the development of the countries and peoples of Latin America with a view to understanding their present political and economic conditions. Prerequisite, sophomore standing. Three recitations a week. Miss Young.

6 Diplomatic History of the United States

(3, 0, 6) 3 credits

Fall term

A study of the origin and evolution of the foreign policy of the United States, including the formation and evolution of the Monroe doctrine, Anglo-American relations, imperialistic tendencies, the new Pan-Americanism war aims of the United States, the United States in the Peace Conference, the League of Nations issue, and the after war tendencies of American foreign policy. Prerequisite, two courses in either history or government. Three recitations a week. Mr. Harding.

11 American Government

(4, 0, 8) 4 credits

Fall term

A general survey of the principles and practices of American government as exemplified in the nation, in the states and in the several areas of local administration. Lectures, text-book, reports and discussions. Mr. Harding.

12 Political Parties and Party History (4, 0, 8) 4 credits Winter term

This course is a study of American political parties and practical politics. History of political parties, party machinery, party morality, party problems, the suffrage, the spoils system, civil service reform, practical politics in legislative bodies, reform of the party system. Readings, class discussions, reports. Should be preceded whenever possible by course 11. Prerequisite, sophomore standing. Four recitations a week. Mr. Harding

13 Comparative Government

(4, 0, 8) 4 credits

Spring term

A comparative study of the governments of leading modern nations. It deals, not alone with governmental structures, but with the underlying principles, the motives and the inner spirit of the peoples. Should be preceded by courses 11 and 12 or by courses 1a, 1c. Prerequisite, sophomore standing. Four recitations a week. Mr. Harding.

21 Economics

(4, 0, 8) 4 credits

Fall term

A standard course in the fundamental principles of economic science. Text book, class discussion and a limited amount of reference work. Prerequisite, junior standing. Four recitations a week. Mr. Harding.

22 Agricultural Economics

(4, 0, 8) 4 credits

Winter term

A study of those economic principles which underlie the effective organization of the farm. The economics of production, problems of land tenure, the economics of marketing and the problem of maintaining and improving the economic conditions of the farmer. Text book, lectures, readings and reports. Prerequisite, History 21. Four recitations a week. Mr. Harding.

23 Marketing and Co-operation (3, 0, 6) 3 credits

Spring term

Marketing at country points; various types of wholesale traders; organized exchanges, auctions and public sales, private dealers and

the middleman question, methods of direct selling, fundamentals of co-operation, cooperative sales agencies, government market bureaus, state owned terminal markets. Prerequisite, Course 21. Three recitations a week. Weld's Marketing of Farm Products and Powell's Cooperation in Agriculture are basic texts. Mr. Harding.

31 Sociology (4, 0, 8) 4 credits Winter term

The fundamental principles of social science, including origin of races and institutions, social evolution, the social order, the social mind, social selection, progress and its conditions, social ideas, social control and social pathology. Lectures, readings, discussions and a term paper. Prerequisite, junior standing. Four recitations a week. Mr. Harding.

32 Rural Sociology (4, 0, 8) 4 credits Spring term

A general survey of the field of rural sociology, including the following topics: types of communities, means of communication, movements of population, the rural social mind, rural morality, farmers organizations, rural recreation, religious and educational forces, the village in relation to rural life and reorganization of rural social forces. Prerequisite, History 31. Four recitations a week. Mr. Harding.

HOME ECONOMICS

PROFESSOR PIERSON; ASSISTANT PROFESSOR McARTHUR;
MISS LEATON; MISS WASSON; MISS KIRK; MISS ASBAHR

The Home Economics Department has been installed in a new building. Equipment has been chosen with the view of making the department and all work therein up to the standard of other state colleges. A practice cottage in which every senior girl will be expected to live a term of weeks to prove and apply what she has learned in home management, has been established and equipped. A cafeteria in connection with the college dormitories offers opportunity for laboratory work in institutional cooking and management.

New subjects are to be offered which will train students to enter the numerous fields now open to home economics graduates. Among such positions are dietitians, institutional managers, extension workers, commercial food worker, tea room managers, caterers, costume designers, directors of specialty stores, etc. The aim is to reach as many of the young women

of the state as possible and give each one a training which will fit her for a home and also give her a profession to follow.

In order that students may fill positions as teachers in the various types of school, special courses are given in the theory and practice of teaching home economics together with lessons in practice teaching which gives the student experience in conducting classes. Observations and criticisms of each student are made by an instructor. All the requirements of the Smith-Hughes Law for Vocational Education are fulfilled and graduates are given certificates for teaching vocational home economics.

Graduates who have done successful work find no difficulty in getting good positions, either thru the college bureau or otherwise.

Below is given the description of courses offered in the Home Economics department. Other electives will be added as the demand grows for them.

1a, 1b Food Preparation and Marketing

(2, 6, 4) 4 credits Fall term

(2, 6, 4) 4 credits Winter term

Study of foods; source; manufacture; marketing; care; etc. Fundamental principles and processes involved in choice, preparation, and serving of foods and food combinations. Elementary principles in serving of meals. Must be accompanied by Chemistry 1. Two recitations and six hours of laboratory work a week. Miss Wasson.

Laboratory fee \$3.00 each term.

1c Food Preparation

(3, 3, 6) 4 credits Fall term

An intensive course covering the principles and technique involved in the preparation of typical foods, offered to freshman students who have had two years of foods in an accredited high school. Three recitations and three hours of laboratory work a week. Miss Wasson.

Laboratory fee \$3.00

2a, 2b Food Preparation

(2, 6, 4) 4 credits Fall term

(2, 6, 4) 4 credits Winter term

Principles involved in preservation of food. Laboratory work in canning, jelly making, pickling, drying, etc. Marketing, planning and preparation of meals; emphasis on cost; nutritive value, economy, and efficiency of time, labor and effort. Prerequisite, Food Preparation 1a, 1b, and Chemistry 1. Two recitations and six hours of laboratory work a week. Miss Wasson.

Laboratory fee \$3.00 each term.

5a, 5b Dietetics	(4, 4, 4) 4 credits	Winter term
	(4, 4, 4) 4 credits	Spring term

Study of the fundamental principles of human nutrition and the application of these principles under varying conditions of age, environment, etc; the nutritive value and function of food; the determination of proper food requirement. Preparation of reference work from the latest and best material published on the subject of nutrition and dietetics. Prerequisite, Food Preparation 2a, 2b and Organic Chemistry. Four recitations and four hours of laboratory work a week. Miss Pierson.

6 Special Cookery Problems	(2, 6, 4) 4 credits	Fall term
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Problems concerning food questions of today. Comparisons as to the value and efficiency of the fireless cooker, double boiler, steamers, pressure cookers, etc. Study of current and local food problems. Opportunity for work to develop students' resourcefulness. Open to juniors and seniors. Two recitations and six hours of laboratory a week. Miss Pierson.

Laboratory fee, \$3.00.

7 Demonstration Cookery	(2, 6, 4) 4 credits	Spring term
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To meet demands for better training in extension teaching, lecture work, commercial work and similar fields. Demonstration by instructors, students and specialists from outside the department. Discussion of equipment, organization, method of procedure, etc. Open to juniors and seniors. Two recitations and six hours of laboratory a week. Miss Wasson.

Laboratory fee, \$3.00.

8 Home Nursing	(2, 3, 4) 3 credits	Spring term
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Elements of nursing, the methods best employed in the home for the care of children, the sick and aged. Care of the sick, bedmaking, bandaging, simple home remedies and how to meet emergencies, etc. Demonstrations in the hospital with lectures. Open to all women students in the college. Two recitations and three hours of laboratory a week. In charge of trained nurse. Miss Prosser.

Laboratory fee, \$.50.

9a, 9b Elementary Sewing	(1, 6, 2) 3 credits	Fall term
	(2, 6, 1) 3 credits	Winter term

Study of constructive stitches; use and care of sewing machine; use of commercial patterns; mending, patching, construction of under garments, waists, dresses, etc.; budgets; study of materials; hygiene of clothing; etc. One recitation and six hours of laboratory work a week, fall term. Two recitations and six hours of laboratory a week, winter term. Miss Leaton.

Laboratory fee, \$.50 each term.

- 10 Textiles and Laundry** (2, 6, 4) 4 credits Winter term
(2, 6, 4) 4 credits Spring term

Study of principal textile fibers in various stages from raw fiber to manufactured cloth; weaves; adulterations; economic conditions; budgets; principles and processes in laundry work. Prerequisite, Elementary Sewing and Chemistry 1. Two recitations and six hours of laboratory a week. Miss Leaton.

Laboratory fee, \$2.00.

- 11 Dressmaking** (0, 6, 6) 4 credits Spring term

Use of dress form, making tight fitted lining, use of dresses, etc. Elements of costume design; suitability of materials, cost, etc. Prerequisite, Elementary Sewing, Textiles and Laundry. Six hours of laboratory a week. Miss Leaton.

Laboratory fee, \$.50.

- 12 Drafting and Dressmaking** (0, 6, 3) 3 credits Fall term

Drafting of simple patterns; construction of waists and dresses; renovation of clothing; designing. Prerequisite, Dressmaking. Six hours of laboratory a week. Miss Leaton.

Laboratory fee, \$.50.

- 13 Modeling and Advanced Dressmaking**

(0, 9, 3) 4 credits Spring term

Modeling in paper, cheesecloth, cambric, and crinoline on forms; construction of garments from these patterns. Embroidery stitches and simple needlework applied. Prerequisite, Dressmaking. Nine hours of laboratory work per week. Miss Leaton.

Laboratory fee \$1.50.

- 14a 14b Millinery** (0, 9, 3) 4 credits Winter term
(0, 9, 3) 4 credits Spring term

Making patterns; construction of frames; covering same; simple trimmings; renovation of hats and materials; retrimming; etc. Prerequisite, Sewing 9a, 9b. Nine hours of laboratory work a week. Miss Leaton.

Laboratory fee, \$1.00.

- 15a Household Management** (3, 3, 3) 3 credits Fall term

The organization and application of all the principles learned in the subjects of the department. A study of efficient housekeeping, budgets and accounts; domestic service, community enterprises, etc. Purposes, functions and activities of the home. Laboratory work on problems of cleaning, renovating, repairing, labor saving methods, etc. Required of seniors. Three recitations a week. Miss Pierson.

Laboratory fee \$1.00.

15b, 15c Home Planning and Equipping

(3, 0, 6) 3 credits Winter term

(3, 0, 6) 3 credits Spring term

This course comprises a study of styles of domestic architecture, house planning and construction, interior finishing, decorating and furnishing. Each student is given the individual problem of planning, decorating and finishing a modest home. A budget for furnishings is made. Miss McArthur.

16 Practice Cottage

(-, -, -) 6 credits

Before receiving a degree all seniors are required to live for a period of twelve weeks in the cottage. The work is planned and done entirely by the students. A home economics faculty member lives in the cottage and supervises the work. Miss Pierson.

17 Institutional Management

(1, 6, 8) 5 credits Spring term

Skill in buying, handling, storing and preparing large quantities of food and problems of menu planning, marketing, selection of equipment, management of servants, accounting, etc. Laboratory work in the dormitory cafeteria and thru college functions. Open to seniors. One recitation and three two-hour laboratory periods.

Laboratory fee, \$2.00.

7a, 7b Special Methods of Teaching Home Economics

(3, 0, 6) 3 credits Fall term

(3, 0, 6) 3 credits — Winter term

Discussions and problems concerning the standards and methods of Home Economics Education in various types of schools. Courses of study; lesson plans, observation reports, special readings and demonstrations before the class. A study of school organization and management in relation to Home Economics. Prerequisite, Psychology, History of Education, and Principles of Teaching. Three recitations a week. Miss McArthur.

9 Practice Teaching in Home Economics

3-5 credits Any term

This course runs parallel to Education 7a and 7b. Students are given the responsibility of taking part or full charge of classes in sewing and cookery in the public schools, in the School of Agriculture and in the Preparatory Department. Required of students taking Teachers Training Course in Home Economics. Miss McArthur.

HORTICULTURE AND FORESTRY

PROFESSOR HANSEN; ASSOCIATE PROFESSOR McCALL

In this department the work is given from two stand-points. From the one, especially in the study of genetics,

emphasis is placed upon the general philosophy of the subject as being essential to a general education. The claim is made that some of the principles of horticulture and forestry are essential to any well rounded education and to the best preparation for citizenship. The second standpoint is that of students intending to make a life work of horticulture or forestry, either as a business or a profession. Throughout the course full use is made of the student's attainments in the various sciences underlying these subjects. The variation of plants and their development under the hand of man are considered, as well as their propagation and cultivation.

Field and laboratory exercises emphasize the lectures and recitations of the class room. The habit of independent investigation and close observation is encouraged by requiring written reports of outdoor excursions or demonstrations. Excellent facilities for practical illustration are offered by the ninety acres of experiment station horticulture grounds and college campus. In this domain are included orchards, forestry plantations, nurseries, vegetable gardens, small fruit plantations, flower borders and a collection of ornamental plants. Special attention is paid to the breeding of hardy fruits adapted to prairie conditions and the work in this line is now second to none in extent. The department greenhouse consists of two sections, one for the general floriculture work and the other for fruit-breeding experiments. In addition, the horticulture buildings contain class rooms, laboratory, grafting and potting rooms and storage cellars.

Special stress is placed upon practical work in the grafting room.

The following work is offered:

1a, 1b	General Horticulture	(0, 4, 2) 2 credits	Fall term
		(0, 4, 2) 2 credits	Spring term

A study of the elementary principles of fruit growing and vegetable gardening, as related to home production, and the planting and care of home grounds. Two two-hour laboratory periods or one lecture and one three-hour laboratory period per week. Mr. McCall, five field excursions each term with Mr. Hansen.

2 General Forestry (1, 3, 2) 2 credits Fall term

A study of the principles of forestry as applied to shelterbelts and woodlots; propagation and growth characteristics of trees; a short course in the identification of the trees in the vicinity of the State College. One lecture and one three-hour laboratory period a week supplemented by text and assignments. Mr. McCall.

3a, 3b Tree Fruit Culture (0, 4, 2) 2 credits Spring term (0, 4, 2) 2 credits Fall term

The growing of tree fruits, including varieties, soils, fertilizers, spraying, pruning, cultural practices, harvesting and storing. Two two-hour laboratory periods or one lecture and one three-hour laboratory period a week. Prerequisite, Horticulture, 1a, 1b. Mr. Hansen, Mr. McCall.

4 Systematic Pomology (0, 4, 2) 2 credits Fall term

Origin, history and relationship of economic fruits, practice in description and identification of fruits, fruit judging, etc. Two two-hour laboratory periods or one lecture and one three-hour laboratory period a week. Prerequisite, Horticulture 1a, 1b. Mr. Hansen, Mr. McCall.

5 Small Fruit Culture (1, 3, 2) 2 credits Spring term

The growing of small fruits, including soils, fertilizers, planting, training, culture, handling and marketing. One lecture and one three-hour laboratory period a week. Mr. Hansen, Mr. McCall.

6 Plant Breeding (1, 3, 2) 2 credits Spring term

The principles of breeding as applied to flowers, vegetables, and fruits. One lecture and one three-hour laboratory period a week. Prerequisite, Botany 8. Mr. Hansen.

7a, 7b Nursery Practice (0, 4, 2) 2 credits Fall term (0, 4, 2) 2 credits Spring term

Propagation and handling fruit and ornamental plants. Two two-hour laboratory periods a week. Prerequisite, Horticulture 1a, 1b. Mr. Hansen.

8 Landscape Gardening (1, 3, 2) 2 credits Fall term

General principles of landscape gardening; most common plant material employed; practice in simple plan drawing for home and school ornamentation. One lecture and one three-hour laboratory period a week. Mr. McCall.

9 Floriculture (0, 4, 2) 2 credits Spring term

Practical methods of growing flowers and other ornamental plants. Two two-hour laboratory periods a week. Mr. McCall and College florist.

10 Home Vegetable Gardening (0, 4, 2) 2 credits Spring term

Growing vegetables for home use, including choice of varieties, fertilizers, seeding, transplanting, culture, pest control, harvesting and storing. Two two-hour laboratory periods a week supplemented by text book assignments. Mr. McCall.

11 Advanced Vegetable Gardening (0, 4, 2) 2 credits Winter term

Vegetable forcing in greenhouses, hotbeds, and cold frames. Greenhouse construction and management; two two-hour laboratory periods a week, supplemented by text and assigned readings. Prerequisite, Horticulture 10. Mr. McCall.

12 Commercial Vegetable Gardening (0, 4, 2) 2 credits Spring term

Business methods followed by professional truck growers, labor problems, rotations, companion and successive cropping, and special problems in production of vegetables for market. Two two-hour laboratory periods a week supplemented by lectures and assignments. Prerequisite, Horticulture 11. Mr. McCall.

13 Systematic Olericulture (2, 0, 4) 2 credits Spring term

Systematic study and description of leading varieties of vegetables. Two lecture periods a week. Prerequisite, Botany 2c. Mr. McCall.

14a, 14b, 14c Landscape Design 2 credits Each term

Landscape composition; civic art; advanced composition. Solution of problems in landscape gardening. Prerequisite, Horticulture 2, 8 and 17. Mr. Hansen, Mr. McCall.

15 Horticultural Problems (1, 0, 2) 1 credit Any term

Assigned problems for horticulture, experimental work in greenhouse gardens and orchards, keeping records, etc. Hours for consultation. For seniors. Mr. Hansen.

16 Floral Arrangement (1, 0, 2) 1 credit Winter term

Junior or senior girls or others interested in commercial floriculture. A study of principles and methods of arrangements of flowers for various types of decorations. One two-hour laboratory period a week with assignments. Mr. McCall and College florist.

17 Plant Materials (1, 3, 2) 2 credits Spring term

A study of trees, shrubs, and flowers in their relation to landscape work. One lecture and one three-hour laboratory period per week. Mr. Hansen, Mr. McCall.

INDUSTRIAL ART

ASSISTANT PROFESSOR HARTNETT

On account of the growing demand for men to teach the manual and industrial art subjects this department has been added to the State College. By electing this work with that in the mechanical engineering, auto-mechanic and educational departments students are well fitted to instruct in the manual art and industrial subjects.

The shops are located in the northeast wing of the Engineering Building, and have the following equipment: band saw, variety saw, jointer, mortiser, grinder, speed lathe and planer, all with individual motor drive, a trimmer, twenty-six individual benches and all the necessary tools.

Industrial Art 2a, 2b, 3, 4 and 5 described below are "limited credit" subjects. However, a student who desires to train himself to teach this kind of work may be permitted by the Classification Committee to elect more of such work towards a degree than the rule governing "limited credit subjects" permits, provided a well balanced scheme of study is outlined.

2a, 2b Cabinet Making	(0, 6, 0) 2 credits	Fall term
	(0, 6, 0) 2 credits	Winter term

This course is open to all collegiate students and because of the fact that many students have not had any manual training experience it begins with a review of the hand tool process. This is followed by instruction in the care and use of the woodworking machines. Commercial methods of furniture manufacture are studied and followed as much as possible. Prerequisite, mechanical drawing.
Laboratory fee, \$.75 a credit hour.

3 Wood Turning	(0, 6, 0) 2 credits	Spring term
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The work in wood turning is offered in each term and on account of the equipment the time is arranged for the convenience of the students. The instruction includes turning between centers, chuck and face plate turning. In addition to the exercises, ornamental turnings are made. Prerequisite, Industrial Art 2a.

Laboratory fee, \$.75 a credit hour.

4 Furniture Design	(0, 6, 0) 2 credits	Spring term
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This course is open only to those students who have had at least two terms of collegiate work in the department. It includes the study

of the period furniture, turnings and carvings and their proper applications. Cabinet work involving these principles will be constructed. Prerequisite, Industrial Art 2a, 3.

Laboratory fee, \$.75 a credit hour.

5 Carpentry (0, 6, 0) 2 credits Spring term

This course is offered in the spring term so that much of the instruction can be given outside of the shop in practical work of construction of buildings. Rafter cutting, window and door frame building as well as plan reading are studied. Prerequisite, mechanical drawing.

Laboratory fee, \$.75 a credit hour.

6 Farm Shop Work 2-4 credits Spring term

This course is arranged for teachers and students of agriculture and will consist of shop work in wood and metal as they center around farm projects. Some attention will be given to concrete construction, repair of farm equipment and farm buildings. Problems in equipping farm shops and school shops for teaching farm mechanics will be taken up in this course.

16 Industrial Education (3, 0, 6) 3 credits Spring term

The course is planned for vocational teachers, supervisors, or teachers of the manual and industrial arts, and for principals and superintendents who may have charge of schools where this kind of work is given. Social and economic basis. A brief review of the Industrial Revolution and the decay of the apprentice system will be made before taking up the present day problems. The present industrial situation, trade unions, types of trades, means of learning a trade, specialization in industries. The relation of industrial arts to industrial and trade training. Types of schools—pre-vocational, trade, part time, continuation, cooperative industrial, technical, evening schools, corporation schools. The relation of the junior high school to industrial education. Vocational guidance as related to industrial training. Legislation. State and Federal aid to vocational schools. Special attention will be given to types of industrial work for small towns and schools in rural communities. Lectures, investigations and reports. Mr. Hartnett.

MATHEMATICS

PROFESSOR BROWN; ASSOCIATE PROFESSOR MILLER; ASSISTANT PROFESSOR McCORDIC

The general work of this department is planned to cultivate habits of systematic and accurate thinking, as well as facility in making calculations. Independent effort is en-

couraged to the greatest possible extent, the solution of problems and original demonstration forming an important part of each course.

The department advises general science students choosing major work in the mathematical and physical sciences (Group 3), to elect courses 2, 3, 4, 5a, 5b and 6. Courses 1a, 1b and 1c are arranged for general science and agricultural students who do not desire to take the five credit freshman courses.

Students who expect to teach mathematics or do graduate work in the subject are advised to take other courses offered by the department. Those interested should consult members of the department concerning such changes.

1a, 1b, 1c **Mathematical Analysis** (3, 0, 6) 3 credits Each term

A correlated course in college algebra, trigonometry and analytic geometry. Offered for general science and agricultural students who do not desire to take the five credit courses in college algebra, trigonometry and analytic geometry. Prerequisite, high school algebra and geometry. Mr. Miller.

2 **College Algebra** (5, 0, 10) 5 credits Fall term

Elementary topics, functions and their graphs, review of the quadratic equation, complex numbers, theory of equations, permutations and combinations, partial fractions, logarithms and determinants. Prerequisite, three semesters of elementary algebra. Five recitations a week. Required in freshman Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Miss McCordic.

3 **Plane Trigonometry** (5, 0, 10) 5 credits Winter term

The functions of acute angles, the solution of the right triangle, goniometry, the solution of the oblique triangle, general applications of trigonometry. Prerequisite, one year of plane geometry and one and one-half years of high school algebra. Five recitations a week. Required in freshman Engineering, elective in General Science and Agricultural courses. Mr. Miller; Miss McCordic.

4 **Analytic Geometry** (5, 0, 10) 5 credits Spring term

Co-ordinate systems, projections, loci, the straight line, conics, the general equation of the second degree. Prerequisite, Mathematics 2 and 3. Five recitations a week. Required in freshman Engineering, elective in General Science and Agricultural Courses. Mr. Miller; Miss McCordic; Mr. Brown.

5a Calculus (5, 0, 10) 5 credits Fall term

Differential calculus, with application to engineering problems, integration of standard forms, definite integrals, rational fractions, integration by parts. Prerequisite, Mathematics 4. Five recitations a week. Required in sophomore Engineering, elective in General Science and Agricultural Courses. Mr. Miller; Miss McCordic.

5b Calculus (5, 0, 10) 5 credits Winter term

The applications of calculus to problems involving areas, lines, surfaces, and volumes; successive and partial integration, centers of gravity and moments. Prerequisite, Mathematics 5a. Five recitations a week. Required in sophomore Engineering, elective in General Science and Agricultural courses. Mr. Miller; Miss McCordic.

6 Analytic Mechanics (5, 0, 10) 5 credits Spring term

The applications of calculus in the field of Pure Mechanics. Prerequisite, Mathematics 5b, of which it is a continuation. Five recitations a week. Required in sophomore Engineering, elective in General Science and Agricultural Courses. Mr. Miller; Mr. Brown.

7 Solid Analytic Geometry (3, 0, 6) 3 credits Fall term

The application of coordinate systems to geometry of three dimensions. Prerequisite, Mathematics 4. Three recitations a week. Offered primarily for students who are interested in advanced mathematical study and graduate engineering work. Mr. Miller.

8 Theory of Equations and Determinants (3, 0, 6) 3 credits Winter term

A study of the theory of determinants, complex numbers, De Moivre's Theorem, cubic and biquadratic equations. Prerequisite, Mathematics 4. Offered for students who are interested in advanced mathematical study. Mr. Miller.

9 Differential Equations (3, 0, 6) 3 credits Spring term

A study of the differential equations with application in the fields of mechanics and physics. Elective in all courses. Prerequisite, Mathematics 5b. Three recitations a week. Mr. Miller.

10 Mathematical Theory of Investment (5, 0, 10) 5 credits Fall term

The application of algebra to problems in interest, annuities, amortization, the valuation of bonds, sinking funds and depreciation, building and loan associations, theory of probability and problems in life insurance. Prerequisite, Mathematics 2, 3 or 1a, 1b, 1c. Offered primarily for those students who desire a knowledge of mathematics as applied to business. Mr. Miller.

11a, 11b	Projective Geometry	(4, 0, 8) 4 credits	Winter term
		(4, 0, 8) 4 credits	Spring term

A development of the fundamental notions of projective geometry mainly from the purely synthetic standpoint. Prerequisite, two years of college mathematics. Offered for those students who are interested in advanced mathematical study. The course is very desirable for prospective teachers of geometry. Mr. Miller.

20	General Astronomy	(3, 0, 6) 3 credits	Spring term
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The aim of the course will be to familiarize the student with the general non-technical phases of astronomy. Text and a limited use of instruments. Prerequisite, sophomore standing. Three recitations a week.

MECHANICAL ENGINEERING

PROFESSOR SOLBERG, ASSOCIATE PROFESSOR HOY;
MR. ANDREWS

The object of the work offered is to give the students a thorough training in the theoretical principles underlying the science of mechanics and machines and at the same time to enable them to become particularly familiar with some of the numerous applications of these principles.

The instruction is both theoretical and practical. The usual methods of text-book study and lectures are employed, but the student is required to put into practice, as far as possible, the instruction he receives. Hence the work of the classroom is supplemented and practically exemplified by practice in shops. The student not only studies the theories of constructing and operating machinery, but in the drawing room he designs, and in the shop he constructs and operates such machines. It is believed that those who complete this course will be able to fill responsible positions in manufacturing establishments.

The department is located in the Engineering Building.

The workshops are supplied with a large variety of tools of good quality.

The machine shop is furnished with a large number of engine lathes of different sizes, universal milling machine, shaper, planer, tool grinder, drill press, emery wheels and a

great variety of hand tools. The machinery is driven by a 50 horse power steam engine and two motors.

The Experimental Engineering Laboratory is equipped with a 100,000 pound vertical screw testing machine, for making tensile and compressive tests of the various materials of construction; an automatic shot cement briquette testing machine; a gas engine; a 10 by 10 steam engine; an 8 by 10 steam engine; a 5 by 7 steam engine; and there are also available for this work a 12 by 14 steam engine and two 48 by 16 horizontal tubular boilers. A calorimeter for determining the heat of gases; a valorimeter for making British thermal unit tests of coal, and an apparatus for flue gas analysis are also used in this work.

The laboratory also possesses a large amount of small apparatus such as indicators, planimeters, steam gauges, thermometers, etc., and a complete outfit for making tests of sand, cement and concrete.

Work in architectural drawing and designing is offered.

Additional work along this line will be given to students who desire it.

The following work is offered:

1a, 1b, 1c	Forging	(0, 6, 0) 2 credits	Any term
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Demonstrations and work in the care and use of the fire and forging tools, together with the work in iron, mild steel and tool steel. The class work will include in bending, drawing out, upsetting, shaping and tempering of tools, and art smithing. The course will offer a good outline in metal work for manual training. Open to all students. Three hours a week for each credit. Limited credit subject. Mr. Andrews.

Laboratory fee \$.75 per credit each term.

2a, 2b	Machine Shop	(0, 9, 0) 3 credits	Winter term
		(0, 9, 0) 3 credits	Fall term

Includes a study of the material used in machine work, shop sketching, methods of laying out work, and the elementary principles of machine work; problems involved in the use of various machine tools. Regular text book and class room work supplements the actual work in the shop. Open to all students. Three hours a week for each credit. Mr. Hoy.

Laboratory fee \$.75 per credit each term.

- 3a, 3b **Engineering Drawing** (0, 9, 0) 3 credits Fall term
 (0, 6, 0) 2 credits Winter term

Instrumental, geometrical problems and parts of machines. Open to all students who have had high school mathematics. Three hours a week for each credit. Mr. Solberg.

- 4a, 4b, 4c **Architectural Drawing** (0, 6, 0) 2 credits Any term

Rendered drawings of simple buildings, examples of various orders, giving facility in draughtsmanship, familiarizing students with principles introduced in practical problems, exercises in composition and details. Open to all students who have had high school mathematics. Three hours a week for each credit. Mr. Solberg.

- 5 **Descriptive Geometry** (0, 6, 0) 2 credits Spring term

Instruction in methods of representing by drawing all geometrical magnitudes and solution of problems relating to these magnitudes in space. Prerequisite, plane geometry. Six hours a week in recitation and drawing work. Mr. Solberg.

- 6 **Machine Design** (0, 9, 3) 3 credits Winter term

Solution of various problems involving the design of simple parts of the machine. Prerequisite, Mechanical Engineering 3a, 3b. Three three-hour laboratory periods a week.

- 7 **Elements of Mechanism** (4, 0, 8) 4 credits Spring term

Elements of machinery, velocity ratios, graphic representation of speed and acceleration; motion transmitting parts, such as gears, belts, cams, screws, link work; automatic feeds, paralleled and quick return motions; designing. Prerequisite, Mathematics 3. Four recitations a week. Mr. Solberg.

- 8 **Machine Design and Kinematics** (0, 9, 0) 3 credits Fall term

Continuation of Machine Design and problems in the design of motion transmitting appliances. Prerequisite, Mechanical Engineering 7. Three three-hour periods a week. Mr. Solberg.

- 9a, 9b **Steam Engines and Thermodynamics**

(3, 0, 6) 3 credits Fall term

(3, 0, 6) 3 credits Winter term

Study of the modern steam engine, slide valve, and when in combination with independent cut-off valves, link motion and Zeuner diagrams, reciprocating parts and indicator practice; the principles of the theory of heat which are necessary to a study of the various kinds of heat engines; the application of laws of thermodynamics to the steam engine and a study of steam engine economy by entropy temperature analysis and by other graphical methods. Prerequisite, Mathematics 5a, 5b. Three recitations a week. Mr. Solberg.

10 Steam Boilers (3, 0, 6) 3 credits Spring term

Advantages and disadvantages of using the various forms of boilers, methods of construction, tubes, plates, riveting, bracing, grate and heating surface, gauges and feed appliances, setting, care and operation. Prerequisite, Mechanical Engineering 9. Three recitations a week. Mr. Solberg.

11 Engineering Design (0, 15, 0) 5 credits Winter term

Continuation of Mechanical Engineering 8, with special reference to steam machinery. Solution in the drawing room of some practical problems in design and making working drawings of same. Five three-hour laboratory periods a week. Mr. Solberg.

12a, 12b, 12c Engineering Laboratory (0, 6, 0) 2 credits Each term

Testing of materials of construction, including investigation of problems in connection with use of concrete; testing of gauges, thermometers, planimeters; determination of heat value of coal; use of steam and gas engine indicators; throttling and separating calorimeters, dynamometers and Prony brakes; and complete efficiency tests of engines and boilers under actual running conditions. Prerequisite, Mechanical Engineering 9 and 10, and Civil Engineering 6. Six hours of laboratory work a week. Mr. Hoy.

Laboratory fee, \$2.00 each term.

13 Gas and Oil Engines (2, 0, 4) 2 credits Spring term

Study of the theory, design and operation of gas, gasoline and oil engines and of the various types of gas producers. Prerequisite, Mechanical Engineering 9. Two recitations a week. Mr. Solberg.

14 Heating and Ventilation (3, 0, 6) 3 credits Spring term

A study of the principles underlying the design of the various systems of heating and ventilation in common use, including such details as loss of heat from buildings, problems in proportioning ventilating ducts; and the arrangement of systems of piping for steam and hot water. Prerequisite, Mechanical Engineering 9. Three recitations a week. Mr. Solberg.

15 Power Plant Design (0, 12, 0) 4 credits Spring term

Design of a power station including buildings and roofs for an up-to-date plant. Prerequisite, Mechanical Engineering 10. Four three-hour laboratory periods a week. Mr. Solberg.

MILITARY SCIENCE AND TACTICS

MAJOR VAN FLEET; CAPTAIN WALTZ; SERGEANT FREY; SERGEANT ROSS

The Department of Military Science and Tactics consists of two divisions, Infantry Units, Reserve Officers Training Corps. The Senior Division is composed of collegiate students; The Junior Unit, of students of the secondary courses.

All physically fit male students of the Freshman and Sophomore classes are required to take military training unless excused by the president of the institution upon the recommendation of the professor of military science and tactics.

The course for the Freshmen and Sophomores is called the "Basic Course." Upon completion of the two years of the Basic Course, a student, upon the approval of the president of the institution and the professor of military science and tactics, may take the Advanced Course during his Junior and Senior years. This course requires five hours a week part of which are recitations and require outside preparation and for which two credits are given. Men taking the Advanced Course are paid commutation of rations by the Government of the United States at a rate prescribed each year by the Secretary of War. Upon satisfactory completion of the Advanced Course, the student is given a commission in the Officers Reserve Corps.

The principal purposes of this military training are to train a large number of men each year, who in case of emergency will have some military training; to help develop the student physically; and for those taking the Advanced Course, to prepare them to hold a position in the Officers Reserve Corps.

Uniforms and equipment are furnished by the Government.

The College has a large Armory, the main floor of which is one hundred and sixty five feet long and one hundred feet wide. This makes it possible to carry on the training regardless of weather conditions.

Practical and theoretical instruction is given in the elementary subjects of Military Science. The work is progress-

ive with a different schedule of instruction for each class.

1a, 1b, 1c	Military Science	(0, 3, 0) 1 credit	Each term
Required of freshmen. Three hours a week.			
2a, 2b, 2c	Military Science	(0, 3, 0) 1 credit	Each term
Required of sophomores. Three hours a week.			

MUSIC

PROFESSOR CHRISTENSEN; ASSOCIATE PROFESSOR PETERSON; MISS JOHNSON; MISS COUGHLAN; MR. JOHNSON; MISS RINK

The purpose of this department is to give the very best musical training possible at a minimum cost, without sacrificing the high standards of the institution.

It is generally recognized that few branches of study require a greater and broader training of the mind than does the study of music, and not only cultivation of the mind, but of the emotions as well. The emotional is a phase too often neglected in education, although it has so important a part in life. In music one must learn to control—to keep in the background—one's own emotions, in order to give true expression to the thoughts of the master minds which have so wonderfully woven the beautiful harmonies.

A knowledge of music also serves to give proper balance to an education, the aesthetic side of which is too often neglected.

The work of the department is arranged with the view of supplying the needs more especially of those who wish to broaden themselves and to make music a part of their general education.

Advantages

The hearing of good music is most important in getting a proper musical education. Splendid opportunities in this direction are given in connection with the high grade faculty concerts, and an Artists' course which consists of recitals by some of the best musicians of the country.

In addition to these advantages, the department maintains a Choral Union, a Chapel Choir of twenty-four picked

voices, a Men's Glee Club, a Women's Glee Club, a Ladies' Band, a String Quartet, a Symphony Orchestra and a Military Band.

All these organizations appear in concerts during each school year.

The Choral Union has presented Handel's "Messiah" for six consecutive years. It has also produced "Hiawatha" and "The death of Minnehaha" by Coleridge-Taylor, "Elijah" by Mendelssohn, "The Rose Maiden," "Fair Ellen," "The Redemption," "Faust," the comic operas "H. M. S. Pinafore," and the "Mikado."

Recitals are also given by students at various times during the year and attendance is obligatory upon each student of the department.

Students' Convocation

The Music Students' Convocation meets once each month, at which programs are given by students or faculty. As this is part of the school work each student of music is required to be present.

Equipment

The department of music occupies rooms in the east portion of the Administration building, adjoining the Auditorium. Its equipment includes three Knabe Grand pianos, one Steinway Grand and one Brambach Baby Grand with a large number of excellent pianos.

The Auditorium, in which all concerts are given, has a seating capacity of over one thousand. It is equipped with a two-manual Estey organ.

A new Edison phonograph has recently been added to the equipment and a large number of excellent records secured as a nucleus for a library. A Lyon and Healy harp and a two-manual practice organ have also been secured.

Conditions for Entrance

The candidate for admission to the College must be at least fourteen years of age and of good moral character, and must

have completed the work of the public schools as far as the ninth grade.

Students of music will be required to take at the same time at least eight hours work outside of the department approved by the classifying officer. Students of Public or High Schools may enroll if written permission from their superintendent or principal is presented.

Absences

No lessons will be made up except those missed because of sickness and when reported in advance to the instructor. If absence is necessary for other reasons permission must be obtained from the administration.

Lessons will in no case be made up after the close of the quarter.

In view of the extremely low tuition, lessons missed on account of college holidays will not be made up.

Courses

Two courses are available for students of this department.

1. Preparatory.
2. Collegiate.

The Preparatory Course is open to all beginners and consists of rudiments, tone production, formation of correct habits of thought and execution, etc.

The Collegiate Course leads to graduation and consists of four years' work. To complete this course, the student must have secured a thorough knowledge of harmony, theory and history as outlined. Upon its completion, the student will be given a diploma in music, provided the entrance requirements to the freshman class of the college have been completed. A certificate of proficiency or merit is awarded at the completion of the junior year.

For convenience, music students who have completed the entrance requirements to the freshman class and one year of the collegiate course in music, will be ranked as though they were carrying full college work, provided that in addition to the full collegiate courses in music they carry other college work amounting to twelve credits.

Credits

Credit for music is assigned on the same basis as credit for regular college work, that is, three hours' work a week in the class room and in practice counts as one credit. Students are expected to spend six hours in practice in connection with each half-hour lesson.

Music credits may be counted towards the degree of bachelor of science according to the rules governing limited credit subjects. This rule prescribes that not to exceed a total of ten credits in music, typewriting, the fine arts and several other lines of work, nor more than three in any one year, may be thus counted. Harmony and history of music are not included among these subjects. For further details concerning this matter, see index for reference to "Limited Credit Subjects."

The following credits are awarded for work in this department, each credit representing not less than three hours of work in recitation and preparation:

1. Piano or Organ—2 half hours per week 4 credits per term.
2. Piano or Organ—1 half hour per week 2 credits per term.
3. Voice—2 half hours per week 2 credits per term.
4. Voice—1 half hour per week 1 credit per term.
5. Violin or Cello—2 half hours per week 4 credits per term.
6. Violin or Cello—1 half hour per week 2 credits per term.
7. Wind Instruments—2 half hours per week 4 credits per term.
8. Wind Instruments—1 half hour per week 2 credits per term.
9. Harmony, Counterpoint and Composition—2 half hours per week 2 credits per term.
10. Harmony, etc.—1 half hour per week 1 credit per term.
11. History of Music—1 hour per week 1 credit per term.
12. Music Essentials and Forms—1 half hour per week 1 credit per term.
13. Ear Training—1 half hour per week 1 credit per term.
14. Glee Clubs—1 credit per year.
15. Choral Union—1 credit per year.
16. Chapel Choir—1 credit per year.
17. Orchestra—1 credit per year.
18. Ladies' Band—1 credit per year.

OUTLINE OF COLLEGIATE COURSE

First Year

	Fall	Winter	Spring
*Applied Music (Major Work) -----	4	4	4
Harmony -----	2	2	2
Choral Union, Orchestra, etc. -----			1
English -----	3	3	3
Foreign Language -----	3	3	3
Military or Physical Culture -----	1	1	1
Electives -----	5	5	5
	—	—	—
	18	18	19

Second Year

*Applied Music (Major Work) -----	4	4	4
Harmony -----	2	2	2
History of Music -----	1	1	1
Ear Training -----	1	1	1
History of Music -----	1	1	1
Choral Union, Orchestra, etc. -----			1
English -----	3	3	3
Military or Physical Culture -----	1	1	1
Electives -----	5	5	5
	—	—	—
	18	18	19

Third Year

*Applied Music (Major Work) -----	4	4	4
Counterpoint -----	2	2	2
**Applied Music (Minor Work) -----	2	2	2
Choral Union, Orchestra, etc. -----			2
Psychology -----	4	4	4
Music Essentials and Forms -----	1	1	1
Electives -----	4	4	4
	—	—	—
	17	17	18

Fourth Year

*Applied Music (Major Work) -----	4	4	4
Composition -----	2	2	2

*Piano, organ or other instrument, two lessons per week. Major work in voice will receive two credits.

**Piano, organ or other instrument, one lesson per week. For students majoring in piano, minor work of one year in voice or some instrument is required. For students majoring in voice or instruments other than piano, minor work of one year in piano is required. Minor work in voice will receive one credit.

Music Essentials and Forms -----	1	1	1
Choral Union, Orchestra, etc. -----			1
Electives -----	8	8	8
	<hr/>	<hr/>	<hr/>
	15	15	16

Studies in **bold faced type** are required for graduation, the others are suggested as electives in a well balanced course.

Voice

MISS JOHNSON

The teaching of voice is based on the principles of the Italian bel canto, beautiful singing, and of the old French school, which gives greater attention to style and diction. Combined with a thorough knowledge of breath control, diaphragmatic breathing, the voice is developed easily and surely with breath, tone-placing and diction, all equal factors in its growth.

Special attention is paid to the needs of each pupil, with individual exercises and studies selected according to the requirements of each voice.

Study will be made of the interpretation of songs and ballads chosen from the best of French, Italian, English and American composers with strict attention to rythm, enunciation and phrasing.

COLLEGIATE COURSE

First Year—Breath movement, teaching the use of the diaphragm, the building of the chest and the proper position for singing. Exercises for the development and placing of the voice. Sieber's thirty-six eight measure vocalizes, manuscript exercises in articulation and phrasing. Easy songs in English.

Second Year—Continued breath work. Scale practice for precision and agility. Studies by Lutgen, Concone, Tosti and Vaccai. Old Italian, French and English songs.

Third Year—Voice Development continued. Songs in French, Italian and English. Arias and duets from operas.

Fourth Year—Exercises continued as above, increasing in difficulty. Recitatives and arias from standard oratorios and operas. Advanced songs by American composers.

Piano

ASSOCIATE PROFESSOR PETERSON; MISS RINK

The study of piano is conducted with a view to balancing more perfectly the training of the mind and the cultivation of technical power. Too often stress is placed upon one or the other, more frequently the latter, to an extreme. Technic is but the means to an end, i. e., the correct interpretation of the masters, and should be so considered.

Special attention is directed from the very beginning to the student's habit of thinking. This is done largely through the method of harmonic analysis and memorizing in an orderly and consecutive manner.

The musical side of the student's personality is brought into action through intelligent and artistic interpretation and its development is materially assisted by his having the opportunity to hear good music, artistically rendered, as often as possible.

In technical development, special work is given for the acquisition of finger strength and independence, a correct position of the hand and purity of tone. Since it is now generally believed that the purest and sweetest tones are secured from direct finger action, this is much emphasized throughout the course.

These fundamental ideas are associated with the principle, the understanding of which is so necessary to the successful teacher, that efforts should continually be made to render the study of the piano less irksome and as intensely interesting to the student as it can be made.

PREPARATORY COURSE

An elementary course is offered to students who are not sufficiently advanced to enter the collegiate course.

COLLEGIATE COURSE

First Year—Etudes of Heller, Czerny, Foote; selections from the Bach suites; easier sonatas by Haydn and Mozart; selected compositions by Mendelssohn, Schubert, Chopin, Schumann, Grieg, MacDowell, etc.

Second Year—Studies from Bach, Suites and Inventions; Heller, Czerny and others; sonatas by Mozart and Beethoven; pieces by Weber, Chopin, Mendelssohn, Schumann, Grieg, MacDowell, Liszt and others; also some of the easier Concertos of Mendelssohn, Weber, Mozart, etc.

Third Year—Bach, Well Tempered Clavichord; Studies by Foote, Chopin, Liszt; Sonatas by Schubert, Weber, Grieg, Beethoven Chopin; concert pieces selected from the works of Weber, Mendelssohn, Schumann, Liszt, Rubinstein and the modern French, Russian and American composers; Concertos by Beethoven, Rubinstein, Chopin, Schumann, Saint Saens, etc.

Fourth Year—Continuation of above; graduate programs prepared, the science of building and arranging programs, advanced work given to develop and broaden the sense of the artistic.

Pipe Organ

ASSOCIATE PROFESSOR PETERSON

A splendid two manual Estey Pipe organ has been presented to the college by its Alumni and installed in the Auditorium last year. A two-manual practice organ is now in use and others are to be added to the equipment as needed.

To pursue the study of pipe organ successfully the student should possess a certain facility in sight reading at the piano.

COLLEGIATE COURSE

First Year—Dunham's Organ School, easy pedal studies, Organ Registration, Hymn Playing, Bach Chorals, easy pieces by standard composers.

Second Year—Buck's Pedal Phrasing studies; Bach Chorals, continued; Bach and Mendelssohn Preludes and Fugues; selected compositions of moderate difficulty from classical and modern schools.

Third Year—Greater works of Bach and Mendelssohn including Sonatas, Chorals and Fugues. Also Sonatas by Rheinberger and Guilmant. Pieces by standard composers.

Fourth Year—Continued study of the greater organ works by Bach, Handel, Liszt, Guilmant, Widor; concert works by standard composers. A complete organ recital is required for graduation.

Violin

MISS COUGHLAN

The study of the Violin is systematically developed and due stress is given to technic, tonal production and the art of fiddle ability, taking from the study of harmony that mechani-

bowing. Pupils having the requisite ambition are given ample opportunity to acquire these elements of playing. Advancement depends considerably upon natural ability and proper tuition, but principally upon hard work.

COLLEGIATE COURSE

First Year—Two octave scales in all major and minor keys; Sevcik, opus 1, book 1; Schradieck's School of Violin Technic; studies by Wohlfahrt, opus 45, books 1 and 2; solos by Dancla, Sitt, Bohm, Eulenstein and Ernst.

Second Year—Three octave scales in all major and minor keys; Schradieck's School of Violin Technic; Sevcik, opus 7, books 1 and 2; Kayser's Etudes, opus 20, books 1 and 2; Mazas opus 36, book 1; solos by DeBeriot, Drdla, Ries, Dvorak, Tschaiakowsky, etc.; easy concertos and sonatas by Seitz, Sitt and Gurlitt.

Third Year—Scales in thirds, sixths, octaves and tenths; Sevcik opus 1, parts 3 and 4; Casorti, Technic of Bowing; Mazas opus 36, book 2; etudes by Dont and Kreutzer; Solos by Wieniawski, Vieuxtemps, De Beriot, Hauser, Hubay, etc.; concertos by Viotti, De Beriot, Rode, etc.

Fourth Year—Advanced work in all subjects; graduate programs prepared; etudes by Alard and Wieniawski; Bach Sonatas; Paganini Caprices; concertos by Mendelssohn, Bruch, Vieuxtemps, Paganini, etc.

Wood-Wind and Brass Instruments

MR. JOHNSON

This department is one of the main factors in developing first class band and orchestra musicians.

Private lessons are given on the cornet, French horn, clarinet, saxophone, trombone, flute, oboe and bassoon.

Special emphasis is laid upon proper breathing and tonguing, band and orchestra routine, and other such technical requisites for the moulding of a true musician.

Harmony

ASSOCIATE PROFESSOR PETERSON

In the study of harmony, the older ideas of harmonizing a given melody or figured bass are discarded. The student is taught from the beginning to write his own melodies for harmonization, thus, while stimulating his originality and inventiveness and superfluous aspect so often too apparent to the pupil, and firmly establishing its proper place in the study of music.

COLLEGIATE COURSE

First Year—Scales, Intervals, Principal and Secondary Triads; Melody writing; Chords of the seventh.

Second Year—Dominant chord of the ninth and diminished sevenths; Dominant forms of principal and secondary triads; Altered Chords and Modulation.

Third Year—Counterpoint, single and double; Canon and Fugue.

Fourth Year—Compositions in various Rondo forms; Sonata or Suite; Instrumentation.

This study is generally conducted in classes of four or five, but those who desire to make more rapid advancement may secure private lessons at special rates, according to the statement upon another page.

Band, Orchestra and Conducting

PROFESSOR CHRISTENSEN

The band is a military organization under the R. O. T. C. All students receive college credits for this work.

The band has a membership of about fifty pieces and has during the past few years played some of the best works by the great masters, including "Mignon Overture" by Thomas, "Second Hungarian Rhapsody" by Liszt, "Roman Carnival Overture" by Berlioz, Ballet music from "The Queen of Sheba," by Gounod, etc.

The Ladies' Band is a big factor in the musical life of State College. This band consists of forty young women who have played for important events such as "The Home-coming of the 147th Field Artillery" at Sioux Falls and other important engagements and have received flattering comments from every portion of state. College credits are also given for this work.

The Symphony Orchestra is open to all students of the College who are proficient upon some instrument of the orchestra. A thorough study of classic and modern compositions is afforded. The orchestra plays at all important college functions and has successfully performed Beethoven's Second Symphony, "Ruy Blas Overture" by Mendelssohn, "Fra Diavolo" by Auber, "Caprice Espagnol" by Rimsky-Korsakoff, etc. The or-

chestra also plays the accompaniments for all choral works given by the Choral Union.

Members of the band and orchestra who wish to learn conducting will be afforded the opportunity to become proficient in this important part of their musical education. This course is open only to students who have had the necessary musical experience. Some knowledge of harmony is necessary.

Music Essentials and Forms

ASSOCIATE PROFESSOR PETERSON

Principles of acoustics as applied to musical instruments; the orchestra; musical terminology; analysis of musical forms: simple song forms, arias, ballads and other vocal forms; the more simple forms of dance music, sonatina, sonata, canon and fugue.

History of Music

MISS COUGHLAN

This course follows the development of music and musical instruments from the earliest to the present time. This is a subject in which every music student should be well grounded and some knowledge of it is essential in the general educational equipment of every person who is at all musically inclined. The phonograph plays an important part in this study.

Public School Music

A course in Public School Music will be offered, provided that a sufficient number of students desire the course.

Ear Training

A special class in ear training and sight reading is included in the four years course, conducted by a capable and experienced teacher. This study will be required of all music students.

Expenses of Students

The tuition for the regular work throughout the year is listed in the table of fees below and depends upon the instructor, subjects studied, etc,

The terms and prices to the student of the five months, course in Agriculture will be the same as that for a quarter and a half, as given below.

Fees

The following fee will be charged a term for instruction:

Miss Johnson, Mr. Christensen, Mr. Peterson, Miss Coughlan.

Two half hour lessons per week ----- \$24.00

One half hour lesson per week ----- 15.00

Miss Rink, Mr. Johnson.

Two half hour lessons per week ----- 21.00

One half hour lesson per week ----- 12.00

Harmony, Counterpoint and Composition in classes of four or more—

Two half hour lessons per week ----- 6.00

One half hour lesson per week ----- 3.50

History, Theory and Ear Training in classes, free to all students

taking major work.

Practice pianos may be used at the following rates a quarter:

One hour a day, \$3.00.

Two hours a day, \$5.00.

Three hours a day, \$6.50.

Four hours a day, \$8.00.

Arrangements for organ practice will be made for students at reasonable rates.

PHARMACY

PROFESSOR SERLES; ASSISTANT PROFESSOR HOGSTAD

Purpose

The purpose of this department is to train young men and women in the science of pharmacy. The passage of the Food and Drug Act by Congress, and similar legislation by our own state has placed very great importance on pharmaceutical education. Under the present commercial conditions it is nearly impossible for one to prepare himself to meet the requirements of these laws except by taking a thorough college course.

The demand for educated pharmacists is becoming greater every day. In fact, even at present, some of the states will not allow one to take the examination for registration unless he is a graduate of a reputable school. This department meets both the preparatory and professional requirements of the New York Educational Department with which

it is registered in full. It is also a member of the American Conference of Pharmaceutical Faculties.

Medicinal and Poisonous Plant Garden

During the past three years a medicinal plant garden has been developed in order to acquaint the students with the principles of medicinal plant cultivation and the nature and characteristics of a large number of drug plants. The student has the opportunity of noting the various steps employed in the cultivation, the collection, drying and preservation of a large number of drugs. Specially designed ovens are employed for the rapid drying of various drugs. The dried, preserved materials are then used in connection with the work in Pharmaceutical Botany, Pharmacognosy, Practical Pharmacy, and Drug Analysis.

Below is given a description of the subjects that are offered in the department:

1a, 1b	Pharmaceutical Latin	(2, 0, 4) 2 credits	Fall term
		(2, 0, 4) 2 credits	Winter term

The subject is taught with special reference to its application to titles and prescription practice. First year. Prerequisite, freshman standing. Two recitations a week. Text: Muldoon's Pharmaceutical Latin. Mr. Hogstad.

2a, 2b, 2c	Materia Medica	(5, 0, 10) 5 credits	Each term
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This study embraces a consideration of the medicinal properties, dosage and the description of the official, and the important non-official medicines. Special emphasis is placed on the nature, effect, and treatment of poisons. Second year. Prerequisite, Pharmacy 3, 4a, 4b. Five recitations a week. Text: Potter's Materia Medica and Applied Therapeutics. Mr. Hogstad.

3	Pharmaceutical Botany	(3, 6, 6) 5 credits	Fall term
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Designed to acquaint the student with the characteristics of the principal groups of plants, emphasis being placed on their economic value. The course also includes examination of the cell and cell contents, the plant structure and microscopical technique. A detailed study of many of the important crude drugs and drug plants with respect to the botanical and pharmacognostical characteristics. First year. Two recitations and six hours of laboratory work a week. Text: Younker's Pharmaceutical Botany. Mr. Hogstad.

Laboratory fee \$2.00, deposit \$2.00.

4a, 4b	Pharmacognosy	(2, 6, 4) 4 credits	Winter term
		(2, 6, 4) 4 credits	Spring term

This course embraces a careful study of source, characteristics and constituents of all the crude drugs of the United States Pharmacopoeia, Ninth Decennial Revision, and of the more typical and important ones of the National Formulary. Special stress is laid on the identification of the crude drugs and their respective powers. First year. Prerequisite, Pharmacy 3. Two recitations and six hours of laboratory work a week. Text: Kraemer's Scientific and Applied Pharmacognosy. Mr. Hogstad.

Laboratory fee \$2.00, deposit \$2.00 each term.

5a, 5b	Theoretical Pharmacy	(4, 0, 8) 4 credits	Winter term
		(3, 0, 6) 3 credits	Spring term

A study of the comparison of the weights and measures of the various systems, and of the theory of the application of the methods used in pharmaceutical manufacture. First year. Four recitations a week, first term, and three recitations a week, second term. Text: Remington's Practice of Pharmacy, Volume 1, with lectures by the instructor. Mr. Serles.

6 Practical Pharmacy	(0, 6, 0) 2 credits	Spring term
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Preparation of waters, syrups, mucilages, and other galenicals prescribed by the instructor. First year. Prerequisite, Pharmacy 5a. Six hours of laboratory work a week. Text: Remington's Practice of Pharmacy, Volume 1. Mr. Rottluff.

Laboratory fee \$2.00, deposit \$2.00.

7 Theoretical Pharmacy	(4, 0, 8) 4 credits	Fall term
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A careful study of the official inorganic salts and their compounds, solutions, emulsions, powders, pills, ointments and plasters. Second year. Prerequisite, Pharmacy 5a, 5b, 6. Four recitations a week. Text: Remington's Practice of Pharmacy, Volume II. Mr. Serles.

8 Practical Pharmacy	(0, 9, 0) 3 credits	Fall term
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Application of principles in course 7 which it accompanies. Second year. Prerequisite, Pharmacy 6. Nine hours of laboratory work a week. Text: Remington's Practice of Pharmacy, Volume II. Mr. Serles.

Laboratory fee \$5.00, deposit \$2.00.

9a, 9b	Dispensing	(4, 0, 8) 4 credits	Winter term
		(0, 12, 0) 4 credits	Winter term

This course is so designed as to acquaint the student with the actual work that comes before him in the store, and to give him the practical side of the work, previously given in lectures on incompatibility

and prescription filling. Second year. Prerequisite, all courses of theoretical and practical pharmacy. Four recitations and twelve hours of laboratory work a week. Text: Scoville's The Art of Compounding. Mr. Serles.

Laboratory fee \$5.00, deposit \$2.00.

10 Prescription Practice (4, 0, 8) 4 credits Spring term

Special attention will be given to the National and State laws governing the importation, commercial disposition and the medico-legal aspects of prescription practice. Second year. Prerequisite, Pharmacy 9a, 9b. Four recitations a week. Texts and references: Scoville's Art of Compounding; Ruddiman's Incompatibles in Prescriptions; Remington's Practice of Pharmacy; Holland's Toxicology; Sollman's Manual of Pharmacology; Potter's Therapeutics and Materia Medica; National and State Laws. Mr. Serles.

11a, 11b Drug Assaying (1, 9, 2) 4 credits Winter term
(1, 9, 2) 4 credits Spring term

Second year. Prerequisite, inorganic chemistry. One recitation and nine hours of laboratory work a week. Mr. Serles.

Laboratory fee \$2.00, deposit \$2.00 each term.

12 Urine Analysis (2, 6, 4) 4 credits Fall term

Each student is required to make a careful and systematic chemical and microscopic study of the urine with sufficient outside reading and lecture work to enable the student in his interpretation of the results which he may find. Third year. Prerequisite, two years work in pharmacy. Two recitations and six hours of laboratory work a week. Texts and references: Holland's Medical Toxicology; Long and Abderhalden's Physiological Chemistry, and lecture notes. Mr. Serles.

Laboratory fee, \$2.00, deposit \$2.00.

13a, 13b, Toxicology (2, 6, 4) 4 credits Winter term
(2, 6, 4) 4 credits Spring term

A systematic physiological and chemical study of the more common poisons, together with the nature, effects and antidotes for same. Lectures will also be given concerning the medico-legal aspect. Third year. Prerequisite, first and second year Pharmacy courses. Two recitations and six hours of laboratory work a week. Text and references: Autenrieth's Detection of Poisons. Holland's Toxicology; Sollman's Manual of Pharmacology; Howell's Physiology; Potter's Therapeutics and Materia Medica; Journal of Experimental Medicine. Mr. Serles.

Laboratory fee \$2.00, deposit \$2.00 each term.

PHYSICS

PROFESSOR MATHEWS; ASSOCIATE PROFESSOR HOY

From the fact that physics is a foundation science and that a knowledge of its laws is necessary to every student seeking a scientific training the department has been fitted with rooms, appliances and facilities for instruction equal to those found in the leading educational institutions of the northwest. The following courses are offered:

1a General Physics (3, 3, 6) 4 credits Fall term

Mechanics of solids and fluids; sound and heat. Prerequisite, high school physics and trigonometry. Three recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

1b General Physics (3, 3, 6) 4 credits Winter term

Heat continued from fall term, electricity and magnetism. Prerequisite, Physics 1a. Three recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

1c General Physics (3, 3, 6) 4 credits Spring term

Electricity and magnetism continued from winter term, and light studied. Prerequisite, Physics 1b. Three recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

2a, 2b, 2c College Physics (2, 3, 4) 3 credits Each term

General topics in physics discussed with special emphasis upon subjects of practical interest; offered to students in agricultural courses. Prerequisite, high school physics. Two recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00 each term.

3 Household Physics (4, 0, 8) 4 credits Spring term

A general review of physics. Emphasis is laid upon the practical application of physical principles in the home. Four recitations a week. Mr. Hoy.

4 Primary and Secondary Batteries (2, 3, 4) 3 credits Fall term

Strong and weak points, care, construction and characteristics of primary and secondary batteries. Prerequisite, elementary physics and plane trigonometry. Two recitations and three hours of laboratory work a week. Mr. Mathews.

5 Teaching High School Physics (2, 0, 4) 2 credits Spring term

Methods of presenting subject matter; class and laboratory outlines, selection of experiments, apparatus and equipment. Prerequisite, high school physics. Two recitations a week. Mr. Mathews.

6 Advanced Physics (4, 3, 8) 5 credits Fall term

Mechanics of solids, liquids and gases, and sound. Prerequisite, Physics 1a, and Mathematics 5b. Four recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

7 Heat (4, 3, 8) 5 credits Winter term

Prerequisite, Physics 1b and Mathematics 5b. Four recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

8 Light (4, 3, 8) 5 credits Spring term

Prerequisite, Physics 1c and Mathematics 5b. Four recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

PHYSICAL EDUCATION

PROFESSOR WEST; ASSISTANT PROFESSOR FEZER

The importance of physical training is fully recognized by the College and all students are encouraged to take part in some form of athletic sports. Young women below the junior year are required to take physical education regularly.

The student association furnishes suits to men in the three major sports, football, basketball, and track.

The gridiron, the tennis courts, and the three basketball courts offer a variety of sports for the men in both the college and school of agriculture. In the winter each of the various classes has a basketball team. Those who do not care for this sport receive instruction on the gymnasium apparatus, in boxing and wrestling. In the spring outdoor sports again hold sway. The college track team offers opportunity for ambitious runners and jumpers. Tennis and baseball are also encouraged.

FOR WOMEN

1a, 1b, 1c	Physical Education	(0, 3, 0)	1 credit	Each term
2a, 2b, 2c	Physical Education	(0, 3, 0)	1 credit	Each term

This course of two years' work, which is required of all women below junior standing, consists of Swedish gymnastics, including light hand apparatus and corrective stall bar exercises, drills, jumping, buck and horse vaulting, games, folk dancing, theory and development of rhythm as a translation of musical construction and note values into bodily movement. Interclass tournaments are played in basketball, volleyball, indoor baseball, and tennis. Two hours a week. Miss Fezer.

Students taking this work are required to furnish the following articles of dress: black bloomers, stockings, tie, leather gymnasium shoes and white middie with short sleeves in the uniform suit.

POULTRY HUSBANDRY

PROFESSOR STEVENSON

The following courses are offered in this department, those given in the School of Agriculture not being indicated.

1	Poultry Culture	(2, 3, 4)	3 credits	Fall term
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A study of the rise of the poultry industry and its importance; the origin of domestic poultry; breeds and varieties of domestic fowl; how to choose a farm for poultry; selection of stock; modern poultry house construction; equipment for the poultry house; yarding and free range; colony and community systems; principles of poultry feeding; various foods for poultry; preparation of rations; management of laying and breeding stock; culling the layers; candling, grading and packing eggs and birds; marketing products. Two lectures and three hours of laboratory work a week.

2	Poultry Husbandry	(1, 3, 2)	2 credits	Spring term
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Elective course. Principles and practice of culling poultry flocks. Judging of poultry for utility and standard qualities. Conditioning, fitting and training of poultry for exhibition purposes. Killing, braining and dry picking poultry. Two hours credit. One lecture period and three hours laboratory work per week.

3	Poultry Breeding	(2, 3, 4)	3 credits	Spring term
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The principles and practice of poultry breeding; the management of breeding stock; anatomy and physiology of fowls; formation of eggs and chickens, study of different makes of incubators and brooders; natural and artificial incubation and brooding; care of growing stock; capons and caponizing; marketing of hatching eggs, day old chicks and

breeding stock. Practice in operation of incubators and brooders. Two lectures and three hours of laboratory work a week.

4 Poultry Raising (3, 0, 6) 3 credits Winter term

An intensive study of turkeys, ducks, geese, squabs, and guineas, pheasants, etc., including the breeds and varieties, housing principles, feeding, breeding and marketing. Three lectures a week.

VETERINARY SCIENCE AND BACTERIOLOGY

PROFESSOR LIPP; MR. TAYLOR

The development of our complex systems of livestock farming and transportation has increased the rapidity with which animal diseases spread over wide areas. Through the necessity of protecting their own interests, farmers and stockmen are paying more attention to all that relates to animal disease prevention than ever before. The following veterinary courses were planned to meet this demand. No attempt is made to teach diagnosis or treatment, since these arts belong to the practicing veterinarians. But every effort is made to teach the principles underlying animal disease prevention, and the methods for their practicable application.

Veterinary Science

1 Veterinary Anatomy (3, 0, 6) 3 credits Spring term

The anatomy of the digestive, respiratory, circulatory, excretory and reproductive systems of domestic animals. Three recitations a week. Dr. Lipp.

2 Veterinary Physiology (3, 0, 6) 3 credits Fall term

The physiology of digestion, respiration, circulation, excretion and regeneration. Prerequisite, Veterinary Anatomy. Three recitations a week. Dr. Lipp.

3 Veterinary Pathology (3, 0, 3) 2 credits Winter term

Common disease processes as they occur in the farm animals. Three recitations a week. Dr. Lipp.

4 Non Contagious Diseases (3, 0, 3) 2 credits Spring term

The causes and methods of preventing the most prevalent non-contagious diseases of farm animals. Prerequisite, Veterinary Pathology. Three recitation a week. Dr. Lipp.

5 Contagious Diseases (4, 0, 8) 4 credits Winter term

The causes and methods of preventing the most prevalent contagious and infectious diseases of farm animals. Prerequisite, General Bacteriology and Veterinary Pathology. Four recitations a week. Dr. Lipp.

6 Applied Embrology (2, 0, 2) 1 credit Fall term

The development of the fetuses of domestic animals, with special reference to the development of the digestive, respiratory, circulatory and genito-urinary systems. Two recitations a week. Dr. Lipp.

Bacteriology

Progress in the development of the science of bacteriology during the past decade has been so rapid and its relation to everyday life so intimate, that a knowledge of the subject is of fundamental importance to everyone who aims to possess a broad general education. While the course is not intensive enough to gain advanced standing by those who later pursue the study of medicine or any other profession in which bacteriology plays an important part, every effort is made to give the student an insight into the underlying principles of the science, and their application to problems of health and the various arts and industries.

1 General Bacteriology (2, 6, 4) 4 credits Any term

The characteristics of growth, staining, and microscopic appearance of many of the most common bacteria. Also a consideration of their excretory products and their action, and the theories of resistance and immunity. Two recitations and two laboratory periods a week. Prerequisite, sophomore standing. Dr. Taylor.

Laboratory fee, \$5.00.

ZOOLOGY-ENTOMOLOGY

PROFESSOR SEVERIN; ASSISTANT PROFESSOR GILBERTSON;
ASSISTANT PROFESSOR O'ROKE

The subjects offered by the zoology-entomology department are planned to meet the needs of three classes of students; first, those who wish to specialize in some phase of this work; second, those who must receive a fundamental training in the work of this department in order that they may pursue certain branches of study, such as human or veterinary medicine, pharmacy, home economics, animal husbandry, horticulture, etc.; and third, those who desire merely to acquire a knowledge of the fundamental facts and principles of zoology and entomology.

The work of this department is conducted by means of lectures, recitations, laboratory and field work. The student is thus afforded not only an opportunity to gain familiarity with the principles and theories discussed in the class room, but is also encouraged to put these theories to the test and verify the principles in the field.

The laboratories are well supplied with apparatus and illustrative materials. In the way of apparatus may be mentioned compound microscopes, binocular microscopes, dissecting microscopes, camera lucidas, paraffin baths, incubators, microtomes, physiological apparatus, photographic apparatus, spray machinery and accessories, etc. As to illustrative materials, in addition to the general museum and entomological collections, there is a large series of charts, skeletons, formalin and alcoholic preparations, wax models, lantern slides, microscopic preparations, a complete line of insecticides and fungicides, a collection of approximately 500 Riker mounts illustrating the life cycle of injurious insects, etc.

The library and entomological collections of the State Entomologist of South Dakota are housed in the zoology-entomology department. These collections are worthy of special mention and are available for general reference work to advanced students specializing in entomology.

ZOOLOGY

1a, 1b	General Zoology	(2, 4, 3) 3 credits	Fall term
		(2, 4, 3) 3 credits	Winter term

This course is planned to give the student a fundamental knowledge of the structures, functions and relationship of animals, how they respond to their environment and their place in human welfare. It constitutes a general survey of animal life, both invertebrate and vertebrate, and serves as an introduction to any course involving a knowledge of the broad underlying principles of biology such as agriculture and home economics. Mr. Severin; Mr. O'Roke; Mr. Gilbertson.

Laboratory fee, \$2.00 each term.

2	Mammals and Birds	(2, 2, 2) 2 credits	Winter term
		(2, 2, 2) 2 credits	Spring term

In this course is included a study of the mammals and birds of South Dakota. Special stress is laid upon such birds and mammals as

are of considerable economic importance to mankind, either because of their usefulness or harmfulness. An intensive study will be made especially of birds of the state. Many of the laboratory periods will be devoted to outdoor work when identification and behavior studies will be emphasized. Mr. O'Roke.

3 Parasitology (2, 4, 3) 3 credits Spring term

A study of the chief worm and protozoan parasites of domestic animals and man, their habits, life histories and economic importance. The course includes lectures, laboratory work, and assigned readings. This course should be preceded by Veterinary and Medical Entomology (see course 11). Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

4 Organic Evolution (3, 0, 6) 3 credits Spring term

A study of the facts and theories that have led up to our present day knowledge of evolution. Variation, Mendelism, the germ cells, and the origin of species and of the individual are the basis for the discussion of methods and principles. Genetics in relation to human welfare is an integral part of the course. Prerequisite, a standard collegiate course in any of the biological sciences. Open only to juniors and seniors. Mr. O'Roke.

5a, 5b Vertebrate Histology (0, 12, 0) 4 credits Fall term
(0, 12, 0) 4 credits Winter term

A course in microscopic anatomy and microtechnical methods, which includes the preparation by the student of a large number of microscopical slides. The latter part of the course consists of the study of tissues from these preparations. Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

Laboratory fee, \$2.00 each term.

6 Vertebrate Embryology (2, 4, 3) 3 credits Spring term

A study of the male and female germ cells, fertilization, cleavage, development, origin of the germ layers and initiation and growth of the systems of organs. The pig and chick furnish laboratory material, and the student is required to prepare a series of slides of the former to be used for study. Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

Laboratory fee, \$3.00.

7 Human Physiology (3, 2, 4) 3 credits Spring term

A study of the work of organisms, reproduction, growth and development of the human body. The fundamental physiological processes such as digestion, excretion, respiration and circulation are demonstrated in the laboratory. Anatomical models and histological slides are used for the study of organs and tissues. Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

8a, 8b	Pharmacy Physiology	(2, 6, 4) 4 credits	Fall term
		(1, 4, 4) 3 credits	Winter term

The anatomy and physiology of a mammal will be studied and comparisons made with the anatomy and physiology of man. Each student is required to dissect a mammal. Anatomical models are used for comparisons. Mr. O'Roke.

Laboratory fee, \$2.00 each term.

9	Hygiene	(1, 0, 1) ½ credit	Fall term
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This course consists of lectures, recitations and conferences, and presents in a reliable way the information and facts that one needs to know regarding personal hygiene and physical efficiency. Required of all freshmen men. Mr. O'Roke.

ENTOMOLOGY

20a, 20b	Entomology	(2, 4, 3) 3 credits	Winter term
		(2, 4, 3) 3 credits	Spring term

A general course dealing with the anatomy, physiology, embryology, behavior, classification, life history and economic importance of insects. This course is designed as an introduction to the advanced courses described under 21, 22, 23, 24, 25, 26, 27, and 28. Mr. Severin; Mr. Gilbertson.

Laboratory fee, \$1.50 each term.

21	Veterinary and Medical Entomology	(2, 4, 3) 3 credits	Winter term
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This course deals with the injurious insects, mites and ticks affecting domestic animals and man. Since insects play such an important part in the transmission of diseases, a considerable portion of the term will be devoted to a discussion of this phase of the work. It is intended that students electing this course also elect Parasitology (see course 3). Prerequisites, Entomology 20a, 20b. Mr. Gilbertson.

22	Orchard Entomology	(2, 4, 3) 3 credits	Spring term
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A course dealing with the life history, development and control of insect and mite pests of fruit-producing plants. Much of the laboratory work will be devoted to a study of spray pumps and the preparation of insecticides and the application of these to the infested plants. Prerequisite, Entomology 20a, 20b. Mr. Severin.

Laboratory fee, \$1.00.

23	Garden Entomology	(2, 4, 3) 3 credits	Fall term
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This course deals with the insect and mite pests of vegetable-garden crops. The recitations and lectures will be devoted to a discussion of the pests, their life cycle, their work and their control, while the laboratory periods will be devoted to a study of spray pumps, insecti-

cides and the application of insecticides. Prerequisite, Entomology 20a, 20b. Mr. Severin.

Laboratory fee, \$1.00.

24 Field Crops Entomology (2, 4, 3) 3 credits Spring term

This course is designed to acquaint the student with such insect pests as injure field crops. Through the recitations and lectures the student learns to recognize the pests under discussion; he familiarizes himself with their life cycle and he learns the fundamentals regarding their control. Through the laboratory work, the insects are studied in the field, as are also the insecticides, spray pumps and other apparatus necessary in the control of the pests. Prerequisite, Entomology 20a, 20b. Mr. Gilbertson.

Laboratory fee, \$1.00.

25 Household Pests (2, 4, 3) 3 credits Spring term

The greater part of this course will deal with insects that are troublesome in the home. Such pests as clothes moths, buffalo moths, flour and cereals insects, house-flies, blow-flies, cockroaches, fleas, ants, bean weevils, silver-fish, mosquitoes, lice, insects infesting house-plants, etc., will be thoroughly discussed. Other pests such as rats, mice, English sparrows, etc., will also be treated in this course. Mr. Gilbertson.

26 Nursery and Greenhouse Inspection (2, 4, 3) 3 credits Spring term

This course deals with the animal pests of nursery and greenhouse stock and is designed to acquaint the student with these pests, their life history and control. A portion of the term will be devoted to the study of state and federal regulations governing nursery stock. Actual experience of nursery and greenhouse inspection will be required of all students before credit is given in this course. Prerequisite, Entomology 20a, 20b. Mr. Severin.

27 Beekeeping (3, 3, 3) 3 credits Fall term

A general course dealing with the fundamentals of beekeeping. In this course it is expected that each student take charge of a hive and that he adopt a program of caring for this hive as outlined by the instructor. Mr. Gilbertson.

Laboratory fee, \$2.00.

28 Systematic Entomology (2, 4, 3) 3 credits Winter term

This course, while primarily entomological, is designed to be of general use to students of biology. The aim of the course is to give the student a good idea of the methods of insect classification. Each student will be required to do his own collecting and mounting of insects, although the collections of the department will be available to the student at all times for reference work. Prerequisite, Entomology 20a, 20b. Mr. Severin.

Special and Secondary Courses

In addition to the courses of study leading to degrees the college offers the special and secondary courses mentioned below. These courses are described on the following pages, or in other parts of the catalog indicated:

The Preparatory Course (Three years).

The School of Agriculture.

The Tractor and Auto-Mechanics Course.

The Three Months Creamery Course. (See the Dairy Husbandry Department.)

The One Year Vocational Course in the Commercial Department. (See the Department of Commercial Science).

Special Courses in Music. (See the Department of Music.)

Special work in Art. (See the Department of Art.)

Special work in Printing.

The Six Weeks Summer School. (See the Summer School.)

PREPARATORY DEPARTMENT**September 26, 1921 to June 15, 1922**

For the benefit of students who do not have high school advantages a preparatory department is maintained. Students who enter the department must be at least fourteen years old and have completed the ninth grade, that is, the first year of the high school course, or equivalent work. The work extends over three years and contains certain required subjects that are considered necessary to a liberal education. The remaining work may be chosen from a large list of elective subjects. The student who pursues the course may thus secure a good preparation for entering upon more advanced work or a training for practical life.

The tuition is \$4.00 a term. Laboratory fees are listed on following page. For information concerning living expenses, see "General Information" in the fore part of catalog.

Students enrolled in this department are expected to carry about twenty credits a term. The unit of credit is a subject of one recitation a week, for which the student is expected to spend one hour in preparation. Two hours in the laboratory work without outside work is counted as the equivalent of one recitation with the required preparation.

English

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|---------|--|-----------|-----------|
| 1, 2, 3 | Composition and Rhetoric | 5 credits | Each term |
| | Five recitations a week. The equivalent of the second year of high school English. | | |
| 4, 5, 6 | American Literature | 5 credits | Each term |
| | Five recitations a week. The equivalent of the third year of high school English. | | |
| 7, 8, 9 | English Literature | 5 credits | Each term |
| | Five recitations a week. The equivalent of the fourth year of high school English. | | |

Mathematics

- | | | | |
|---------|--|-----------|-----------|
| 1, 2, 3 | Algebra | 5 credits | Each term |
| | Five recitations a week. Students who enroll in this should have completed one-half year of the subject. | | |
| 4, 5, 6 | Plane Geometry | 5 credits | Each term |
| | Five recitations a week. Prerequisite, one year of algebra. | | |

Elementary Science

- 1, 2, 3 **Elementary Biology** 5 credits Each term
 Three recitations and four hours of laboratory work a week.
 Laboratory fee \$2.00 each term.
- 4, 5, 6 **Elementary Physics** 5 credits Each term
 Three recitations and four hours of laboratory work a week.
 Prerequisite, one year of algebra and one year of geometry.
 Laboratory fee \$2.00 each term.

Drawing

- 1, 2, 3 **Freehand Drawing** 3 credits Each term
 Six hours of laboratory work a week.
- 4, 5, 6 **Mechanical Drawing** 2-5 credits Each term
 Two hours of laboratory work a week for each credit.

Domestic Science

- 1, 2, 3 **Cooking** 3 credits First half year
Sewing 3 credits Second half year
 Three two-hour laboratory periods a week.
 Laboratory fee \$1.50 a term.

Commercial

- 1, 2, 3 **Bookkeeping** 3 credits Each term
 Six hours of laboratory work a week.
- 4, 5, 6 **Typewriting** 2 credits Each term
 Five hours of laboratory work a week.
 Laboratory fee \$2.00 each term.
- 7, 8, 9 **Business Methods** 3 credits First half year
Industrial History 3 credits Second half year
 Three recitations a week.

History

- 1, 2, 3 **Greek and Roman History** 5 credits Each term
 Three recitations a week.
- 4, 5, 6 **English History** 5 credits Each term
 Three recitations a week.

Manual Training

- 1, 2, 3 **Carpentry** 2-5 credits Each term
 Two hours of laboratory work a week for each credit.
 Laboratory fee \$.75 per credit.

4, 5, 6 **Forging** 2-5 credits Each term
 Two hours of laboratory work a week for each credit.
 Laboratory fee \$.75 per credit.

Scheme of Study

First Year

	Fall	Winter	Spring
Composition and Rhetoric, English 1, 2, 3 -----	5	5	5
Algebra, Mathematics 1, 2, 3 -----	5	5	5
Greek and Roman History, History 1, 2, 3 -----	5	5	5
Elective -----	5	5	5
	20	20	20

Second Year

American Literature, English 4, 5, 6 -----	5	5	5
Plane Geometry, Mathematics 4, 5, 6 -----	5	5	5
Elementary Biology, Science 1, 2, 3 -----	5	5	5
Elective -----	5	5	5
	20	20	20

Third Year

English Literature, English 7, 8, 9 -----	5	5	5
Elementary Physics, Science 4, 5, 6 -----	5	5	5
English History, History 4, 5, 6 -----	5	5	5
Elective -----	5	5	5
	20	20	20

PREPARATORY ELECTIVES

	Fall	Winter	Spring
Freehand Drawing, Drawing 1, 2, 3 -----	3	3	3
Mechanical Drawing, Drawing 4, 5, 6 -----	2-5	2-5	2-5
Domestic Science (Cooking and Sewing) 1, 2, 3 -----	3	3	3
Carpentry, Manual Training 1, 2, 3 -----	3	3	3
Forging, Manual Training 4, 5, 6 -----	2	2	2
Typewriting, Commercial 4, 5, 6 -----	2	2	2
Bookkeeping, Commercial 1, 2, 3 -----	2	2	2
Business Methods; and -----			
Industrial History, Commercial 7, 8, 9 -----	3	3	3

LABORATORY FEES

Elementary Biology	\$2.00	each	term
Elementary Physics	2.00	each	term
Domestic Science	1.50	each	term
Typewriting	2.00	each	term
Manual Training, (Forging and Carpentry)	.75	a	term credit

SCHOOL OF AGRICULTURE

PROFESSOR GRIFFIN

October 31, 1921 to March 21, 1922

The School of Agriculture has for its specific purpose the training of young people for the life and work of the farm and home, for the social life of the rural community and for American citizenship.

The farmers' boys and girls are often needed on the farm and in the homes to help the parents during the busy season of the year. They can usually be spared from such work during the winter season, and may well spend this time in study which will prepare them for practical, profitable farming and successful home management.

While the subjects of study consist primarily of those that relate to farming and household economy, they include also such subjects as are usually given in a regular high school course—for example, English, mathematics, history, civics, chemistry, physics and biology. The technical topics include studies in soils, plants and crops, domestic animals, feeds and feeding, cooking and sewing, laundering, farm and home management, records and accounts, carpentry and blacksmithing. Text books are used when these aids best answer the purpose. Lectures are given in the subjects which can be most efficiently taught in this way. Demonstrations are given in the class rooms, laboratories, kitchen and sewing-rooms, barns, greenhouses, orchards and fields.

The School of Agriculture welcomes earnest and worthy young men and women from all parts of the state who have passed the eighth grade in the public schools and are willing to work in such a course of mental and manual training as will prepare them for life's labors, on the farms and in the homes of South Dakota.

The tuition is six dollars for the year, with a small fee for each laboratory in which work is taken. (See list of laboratory fees following schemes of study.)

Those interested in the School of Agriculture should write to the college for special bulletin, addressing the Registrar, State College, Brookings, South Dakota.

Courses of Study

OUTLINE OF THE FOUR-YEAR COURSE FOR YOUNG MEN

The academic studies are practically the same for men and women. The courses are differentiated only in such points as are related to their specific spheres in life's work.

First Year

	Rec. per. wk.	Hrs. Lab. per wk.	Credit
English I -----	4		4
Business Arithmetic or Algebra -----	4		4
Drill and Physical Training -----		3	1
Animal Husbandry -----	2	4	4
Farm Crops (Cereals) -----	2	4	4
Carpentry -----		6	3
Poultry -----	2		2
Hygiene -----	1		1

Second Year

English II -----	4		4
Botany -----			
or -----			
Algebra I or II -----	4		4
Drill and Physical Training -----		3	1
Dairying -----	2	2	3
Farm Crops (Forage Crops and Seeds) -----	3		3
Livestock Production and Management -----	2	2	3
Blacksmithing -----		4	2
Farm Accounts -----	1		1
Cement Construction -----	1	2	2

Third Year

Civics -----	3		3
Chemistry -----		6	3
Drill and Physical Training -----		3	1
Soils -----	2	4	4
Feeds and Feeding -----	3		3
Horticulture -----	1	2	2
Entomology -----	1	2	2
Zoology -----	2	4	4

Fourth Year

English IV -----	4		4
American History -----	4		4
Drill and Physical Training -----		3	1

Rural Organization -----	3	3
Farm Management -----	3	3
Veterinary -----	2	2
Physics -----	3	3
Elective -----		4

Electives for Third and Fourth Years

Advanced Blacksmithing -----		4	2
Farm Machinery and Motors -----	1	2	2
Advanced Stock Judging -----		4	2
Algebra -----	4		4
Geometry -----	4		4
Soils (Elective in fourth year) -----	2	4	4
Advanced Dairying -----	2		2

OUTLINE OF THE FOUR-YEAR COURSE FOR YOUNG WOMEN

First Year

	Rec. per. wk.	Hrs. Lab. per wk.	Credit
Hygiene -----	1		1
Poultry -----	2		2
English I -----	4		4
Arithmetic or Algebra -----	4		4
Freehand Drawing -----		4	2
Elementary Clothing -----		6	3
Food Study -----		6	3
Physiology -----	3		3
Physical Training -----		2	1

Second Year

English II -----	4		4
Algebra or Botany—			
Algebra -----	4		4
Botany -----	2	4	4
Craft -----		4	2
Elementary Dressmaking -----		6	3
Food Preparation and Service -----		6	3
The House -----	2	2	3
Dairying -----	2	2	3
Physical Training -----		2	1

Third Year

Craft (2) and Home Gardening (2) or			
Geometry -----	4		4

Civics	3	3
Elementary Chemistry		6 3
Dressmaking		6 3
Textiles and Laundering		4 2
Elementary Dietetics and Table Service		6 3
Physical Training		2 1
Art Needlework		4 2

Fourth Year

English IV	4	4
American History	4	4
Elementary Physics	3	3
Household Problems		6 3
Clothing Problems		6 3
Millinery		2 1
Physical Training		2 1
Rural Organization	3	3

LABORATORY FEES—SCHOOL OF AGRICULTURE

Agronomy

Farm Crops (1st year)	\$1.00
Farm Crops (2d year)	1.00
Soils	1.00
Soils, Advanced	2.00

Animal Husbandry

Stock Judging, Elementary	1.00
Stock Judging, Advanced	1.00

Botany	2.00
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Chemistry	2.00
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Dairy Husbandry

Dairying (Men)	1.00
Dairying (Women)	1.00

Entomology	2.00
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Home Economics

Elementary Clothing	1.00
Clothing Problems	2.00
Elementary Dressmaking 2d year50
Dressmaking 3d year .....	.50
Elementary Dietetics and Table Service	3.00
Food Study	3.00
Food Preparation and Service	3.00
Household Problems	3.00

Millinery -----	1.00
Textiles and Laundry -----	2.00
Manual Training	
Carpentry -----	2.25
Blacksmithing -----	1.50
Advanced Blacksmithing -----	1.50
Physics -----	2.00
Zoology -----	2.00

TRACTOR AND AUTO-MECHANICS SCHOOL

PROFESSOR BONELL; ASSISTANT PROFESSOR GOTTSCHALK;
MR. SHOEN

September 26, 1921 to June 15, 1922

The purpose of this course is to give a complete training in the operation, care and repair of gas engines, automobiles and tractors, fitting students for tractor road work, tractor repair work and garage work.

This work is entirely separate from the School of Agriculture course.

Requirements for Entrance

Applicants for entrance to the course should be at least sixteen years of age and have a good reading and writing knowledge of the English language.

Written Application for Entrance Necessary

Because of limited facilities, the College will not accept more than ninety men for this course. However a large number of additional men can be accommodated in the special two weeks tractor schools mentioned below. Those who wish to enter should not come to the College before making written application and ascertaining beforehand whether or not they can be accommodated. For special application blank write to the Registrar, State College, Brookings, South Dakota.

As a prompt beginning at the opening of each term is

necessary to the success of the work, no one will be admitted after October 4 in the fall term and after January 10 in the winter term. A new class will begin work in each of the branches at the beginning of each term.

Expenses

The tuition is \$4.00 a term, or \$12.00 for the year. There are also laboratory fees to cover the cost of special materials used in the shops, 25 cents per hour being charged for time spent in acetylene welding, and \$3.00 for a term's work in each of the other shops. Each student is expected to purchase a small roll of tools costing about \$10.00.

Good rooms and board may be obtained at private houses. The College maintains a dining hall in connection with the women's dormitories, and furnishes board at a very reasonable rate. During the year just closing, the cost of board in the hall has been about \$5.00 a week.

Equipment

An entire building on the campus is devoted to this work. It is completely equipped with modern tractors, automobiles, and gas engines. The laboratories and shops are fitted up with tools and machinery of the latest design. Besides the equipment in this building there are two more shops located in the Engineering building. These two shops, the machine shop and the blacksmith shop, are the very best and each student is given a course in each of them. The student is expected to master the use of all this equipment by actual practice under the guidance of an instructor, and at the same time to learn the theory and the best methods for all phases of the work.

Tractor and Auto-Mechanics Course

To complete this course will require nine months of forty hours work each week. At least six hours a week for each subject is required to complete the full course. One term of Acetylene Welding, Blacksmithing and Machine Shop is re-

quired with the Automobile Electricity and Auto Shop work. Three hours a week in English and arithmetic are also required of those who have not finished the 8th grade.

For special application blank and special bulletin giving outline of the work, write to the Registrar, State College, Brookings, South Dakota.

Special Two Weeks Tractor Schools

During the late winter and spring there will be conducted special tractor schools of two weeks each in which the different kinds of tractors will be studied. These courses will be entirely separate from the regular auto-tractor course, altho the students of the auto-tractor course will have the advantage of these demonstrations without extra charge. A tuition fee of \$2.00 will be charged for attendance at a two weeks course. Men wishing to spend two weeks in the study of two tractors should write to the College for dates, and specify the kinds of tractors in which they are interested.

SCHOOL OF PRINTING

SUPERINTENDENT THORNTON; MR. HARDING

To meet the ever increasing demand for compositors, linotype operators, and pressmen the College installed in 1920 a complete Printing plant consisting of slug casting machines, cylinder and platen presses, folder, stitcher and composing room equipment. Twenty different courses are offered. Students receive training that enables them to fill positions in the average shop as compositors, linotype operators and machinists, pressmen and foremen.

The young man who would fit himself to become a printer, having assured himself of the opportunities afforded him, should take stock of his ability and inclinations. While previous printing experience is not an entrance requirement, a candidate for admission is asked pointedly why he desires to take the course and what his definite ambition is. If, through family or business connections, his future is plainly marked,

the nature of the business he then expects to enter is discussed with his aptitude for such work. It is particularly important that the student recognize his need for a broad, liberal education—in other words for those general and related studies in the curriculum which are intended for mental stimulus and development. The student should also consider his personality, recognizing that the successful printer must be able to take his share in the activities of the business world, and that such ability is frequently cultivated by school association and experience.

The tuition is \$4.00 per term. Laboratory fees are charged at the rate of \$1.00 per credit for work in the Printing Trades and \$2.00 per credit in Linotype operation.

A "credit" in these subjects requires three clock hours of laboratory work each week for twelve weeks, or a total of thirty-six clock hours. Thus a student who is carrying five credits in the Printing Trades would spend fifteen clock hours a week for the twelve weeks for which he would be required to pay a laboratory fee of \$5.00. The laboratory fee for the same time spent in Linotype operation would be \$10.00.

Students are admitted to these courses at intervals of six weeks—at the beginning and middle of each term of the college year and at the beginning of the Summer School. Students should write to the Director of the School of Printing for application blanks before coming to the College.

For additional information regarding courses and other details, write to the Director of School of Printing, State College, Brookings, South Dakota.

College Alumni

ALUMNI ASSOCIATION

B. H. Schaphorst, '12	-----	President
Geo. W. Roskie, '01	-----	First Vice-President
J. O. Wickre, '09	-----	Second Vice-President
Leonard Ladd, '20	-----	Third Vice-President
H. B. Mathews, '92	-----	Secretary and Treasurer
E. R. Serles, '15	-----	Assistant Secretary

Class of 1886

BACHELOR OF SCIENCE

Sayler, Marcus A. ----- Physician and Fruit Grower, Orland, Cal.

Class of 1888

BACHELOR OF SCIENCE

Aldrich, John M., Associate Curator Division of Insects, U. S. -----

Bureau of Entomology, National Museum, Washington, D. C.

Lawrence, Philip A. ----- Attorney, Fargo, N. D.

Wellman, Lulah (Hewes) ----- Lakewood, N. Y.

Class of 1889

BACHELOR OF SCIENCE

Boswell, Katie (Arnold) ----- Kennebec

Cranston, Mary (Crane) ----- Everett, Wash.

Cross, Alvah G. -----

Eno, Durell G. ----- Merchant, Platte

Grady, Francis A. ----- Attorney, Crookston, Minn.

Haber, Sarah (Cunningham) ----- 701 Bozer Ave., Walla Walla, Wash.

Korstad, Hans ----- Rural Mail Carrier, Brookings

Larson, Lars K. ----- Banker, Dell Rapids

Lawshe, Grace (Brooke) ----- Pierre

McKenney, Duston W., Supervisor Manual Training -----

----- Lewis Ave., Billings, Mont.

McLouth, Lewis C. ----- Manufacturer, Ypsilanti, Mich.

Mork, Arbert A. ----- Farmer, Drady, N. D.

Orcutt, Carrie ----- Webb, Ia.

Roe, Ellen (Aldrich) ----- Died, Dec. 8th, 1897, at Helena, Mont.

Rogers, Edmund ----- Farmer, Sheridan St., Burnley Lanes, England

Ross, Abbie (Wesche) ----- Webb, Ia.

Wardall, Anna (Scott) --- Osteopath, 3423 Walnut Ave., Seattle, Wash.

Class of 1890

BACHELOR OF SCIENCE

Allen, William C. -----	Died in Chicago
Day, John M. -----	Farmer, De Ridder, La.
Duffey, Maggie (Irish) -----	Webster Groves, Mo.
Egeburg, Hildus -----	Farmer, Brookings
Haasarud, Ole H. -----	Farmer, Rushford, Minn.
Harkins, Lilla A., Domestic Science Demonstration Agent -----	
-----	516 Wait Building, Decatur, Ill.
Hopkins, Cyril G. -----	Died Nov. 1919, at Gibraltar
Jenkins, John C. -----	Attorney, 1102 Spaulding Bldg., Portland, Ore.
Kenyon, Arthur H. -----	Died, 1919, at Spokane, Wash.
Pyne, Estel W. -----	Capitalist, 633 S. Union Ave., Los Angeles, Cal.
Roe, Guy W. -----	1435 Alvarado Terrace, Los Angeles, Cal.
Stoner, Minna A., Prof. of Medical Dietetics, University Hospital, -----	
-----	Boulder, Colo.
Wardall, Norman M. -----	Co. Auditor, Kings Co., Seattle, Wash.

Class of 1891

MASTER OF SCIENCE

Aldrich, John M., Associate Curator Division of Insects, U. S. -----	
Bureau of Entomology, National Museum, Washington, D. C.	

BACHELOR OF SCIENCE

Aldrich, Irwin D. -----	Commissioner of Immigration, Pierre
Bell, William D. -----	Publisher, 3820 E. 36th St., Minneapolis, Minn.
Bentley, Wm., S. Examining Physician, F. B. V. E., Asbury Hospital -----	
-----	Minneapolis, Minn.
Chamberlain, Jennie (Spooner) Physician, 4525 4th Ave., Detroit, Mich.	
Crane, Austin B., Drainage Specialist, Extension Division, Everett, Wash.	
Davis, Homer -----	Physician, Genoa, Neb.
Dillon, Willis C. -----	
Doughty, Hettie (Dibble) -----	Winter Park, Fla.
Frick, Mary (Magaw) -----	903 W. Zumbro St., Rochester, Minn.
Hann, J. B. -----	Photographer, Bellingham, Wash.
Houston, Grant -----	Physician, Barber Bldg., Joliet, Ill.
Irish, Henry C. -----	Horticulturist, Webster Groves, Mo.
Lewis, Perry -----	Inventor, 101 E. Cherry St., Mankato, Minn.
Robinson, Alice (Heberlein) -----	1710 Arlington Ave., Los Angeles, Cal.
Shannon, Fanny (Fourt) -----	804 E. Burlington St., Fairfield, Ia.
Solberg, Halvor C. -----	Professor Mechanical Engineering, S. D. S. C.
Updyke, Nora (Bacon) -----	220 Oak Grove Ave., Minneapolis, Minn.
Valleau, Vinal B. -----	Moving Picture Theatres, Albert Lea, Minn.
West, Hugh H. -----	Physician, Spurling Bldg., Elgin, Ill.
Wolgemuth, Lee E., Chief Research Engineer, Sears & Roebuck Co. -----	
-----	532 Ridgeland Ave., Chicago, Illinois

Class of 1892

BACHELOR OF SCIENCE

Austin, Steven E. ----- Mechanical Engineer, Chicago
 Davis, Samuel H. ----- Farmer, Beaverton, Ore.
 Griffiths, David, Agrostologist -----
 ----- Dept. of Agriculture, Tacoma Park, Washington, D. C.
 Hamlin, John R., Jr. --- Orange Grower, R. F. D. No. 6, Hawthorne, Cal.
 Harding, Albert S., Professor of History & Political Science, S. D. S. C.
 Hatfield, Ira H. ----- Died Feb. 8th, 1914, at Lincoln, Neb.
 Keeney, Emma (Ferris) ----- Springfield, Ore.
 McAndrew, James E. ----- Lawyer, 906 Paulsen Bldg., Spokane, Wash.
 McLouth, Ida B. ----- Died Aug. 27, 1899, at Short Beach, Conn.
 Madden, Marguerite (Akin) ----- Brookings
 Mathews, Hubert B. Vice Dean of Faculty & Prof. of Physics, S. D. S. C.
 Plocker, Eva (Mathews) ----- Brookings
 Schlosser, Thomas F. ----- Clergyman, Carleton, Ore.
 Sloan, Nettie (Torrence) ----- 29 Kendall St., Redlands, Cal.
 Whitten, John C. ----- Prof. of Pomology, U. of California, Berkeley
 Williams, Effie (Clark) -- 400 E. 14th St., University Place, Lincoln, Neb.
 Winegar, Albert J. ---- Draftsman, Fairbanks-Morse & Co., Beloit, Wis.

Class of 1893

MASTER OF SCIENCE

Griffiths, David, Agrostologist -----
 ----- Dept. of Agriculture, Tacoma Park, Washington, D. C.

BACHELOR OF SCIENCE

Bates, Edmund T. ----- Farmer, Wyoming, Iowa
 Beck, Milton ----- Consulting Engr. & Vice Pres., The Page Co.,
 ----- 72 West Adams St., Chicago, Ill.
 Edgerton, Wm. M. ----- Physician, 2102 Dayton Ave., St. Paul, Minn.
 McLouth, Benjamin F. ----- Ins. Agent, Los Angeles, Cal.
 Robertson, Ada M. ----- Teacher, R. F. D. No. 225, Anaheim, Cal.
 Robertson, Clarence H. ----- Science Teacher and Y. M. C. A. Sec.
 ----- for China, Science Section, 20 Museum Road, Shanghai, China
 Schoppe, W. J. A. ----- Farmer, Putney

Class of 1894

MASTER OF SCIENCE

Plocker, Eva (Mathews) ----- Brookings
 Wolgemuth, Lee E., Chief Research Eng., Sears & Roebuck Co., ---
 ----- 532 S. Ridgeland Ave., Chicago, Ill.

BACHELOR OF SCIENCE

Brown, Cyrus O. ----- District Judge, Douglas, Wyo.
 Brown, James A. ----- Attorney, Care Burr & Brown

----- Security Mutual Bldg., Lincoln, Neb.
 Dibble, Hattie (Stow) ----- Home Demonstrator, Everett, Wash.
 Hopkins, Mrs. C. G. ----- 1001 S. Wright St., Urbana, Ill.
 Luke, Fred K. ----- Farmer, R. F. D. No. 2, Kalispell, Mont.
 Parker, Fannie (Spooner) ----- Brookings
 Sproul, Alex H., Director Com. Dept., High School of Commerce,
 ----- 584 E. 13 St., N. Portland, Ore.
 Tanzy, Marvin F. ----- Died Feb. 8th, 1900, at Canton, S. D.
 Waters, Geo. D. ----- Mgr. Gas Co., Parsons, Kans.
 Williams, Elinor (Knox) ----- Phoenix, Arizona
 Young, Gilbert A., Head of School of Mech. Eng., -----
 ----- Purdue University, 739 Owen St., Lafayette, Ind.

Class of 1895

MASTER OF SCIENCE

McKenney, Duston W. ----- Supervisor Manual Training
 ----- 302 Lewis Ave., Billings, Mont.
 Schoppe, W. J. A. ----- Grain Buyer and Farmer, Putney
 Sproul, Alex H. -- Director of Com. Dept., High School of Commerce
 ----- 584 E. 13th St., N. Portland, Ore.

BACHELOR OF SCIENCE

Allison, Wm. F. ----- Prof. of Civil Eng., U. of Wash., Seattle, Wash.
 Brown, Sarah ----- Teacher, Shannon City, Iowa
 Cornell, Harry M. ----- Real Estate, Mott, N. D.
 Mayland, Mabel (Merrick) ----- Troy, Kan.
 Parker, Anna (Moore) ----- Died Nov. 28, 1918, at Brookings
 Salisbury, Eithd (Robertson) -- Care Y. M. C. A., 20 Museum Road,
 ----- Shanghai, China
 Sevy, Isaac B. ----- Supt. City Schools, Milton, Ore.
 Sproul, Wm. C. ----- Sec'y Ingersoll Milling Machine Co.
 ----- 1751 Clinton St., Rockford, Ill.
 Thornber, John J. ----- Prof. of Botany, U. of Arizona, Tucson
 Wilcox, Ernest M. ----- Farmer, Atascadero, Cal.

PHARMACY GRADUATES

Briggs, Elmer E. ----- Druggist, Muscoda, Wis.
 Knox, Wm. H. ----- Sec. Egyptian Cotton Growers' Assn., Phoenix, Ariz.
 Lentz, Elmer A. ----- Dentist, Brookings
 Murphy, Wm. ----- Died July 5, 1896, at Brookings
 Whitehead, B. T. ----- Died April 1, 1917, at Brookings

Class of 1896

MASTER OF SCIENCE

Brown, James A, ----- Attorney, Care Burr & Brown
 ----- Security Mutual Bldg., Lincoln, Neb.

Luke, Fred K. ----- Farmer, R. F. D. No. 2, Kalispell, Mont.
 Robertson, Ada N. ----- Teacher, R. F. D. No. 225, Anaheim, Cal.
 Wilcox, Ernest N. ----- Farmer, Atascadero, Cal.
 Williams, Effie (Clark) - 400 E. 14th St., University Place, Lincoln, Neb.

BACHELOR OF SCIENCE

Atkinson, Jesse C. ----- Civil Engr., C. & N. W. R'y. Co.
 ----- 217 N. Leamington Ave., Chicago, Ill.
 Carter, Louis W. ----- Postmaster, Highmore
 Dibble, Ida (Brown) ----- Care Burr & Brown
 ----- Security Mutual Bldg., Lincoln, Neb.
 Downing, Jennie C. ----- Died Feb., 1920, at Redfield
 Grattan, Paul H. ----- Hardware, Chatfield, Minn.
 Hegeman, Harry A., Lieut. Col. U. S. A. Vancouver Ave., Portland, Ore.
 Holm, Andrew B. ----- Farmer, Brookings
 Hoy, Howard H. ----- Asso. Prof. of Phys. and Mech. Eng., S. D. S. C.
 Korstad, Mary ----- Brookings
 Lusk, Willard C. ----- Editor Yankton Press and Dakotan, Yankton
 Mathews, Alta (Smith) ----- Teacher, Bonanza, Ore.
 Mathews, Nora (Hoy) ----- Brookings
 Sasse, Ernest G. ----- Physician, Lidgerwood, N. D.
 Williamson, Albert ----- Attorney, Kennebec

PHARMACY GRADUATES

Cotter, J. C. ----- Farm Machinery, Dell Rapids
 Grove, Eugene ----- Physician, Arlington, S. D.
 Moore, Thomas ----- Druggist, Waterloo, Ia.
 Palmer, Horton ----- Druggist, 426 S. Sycamore St., Santa Ana, Cal.
 Sherwin, Frank ----- Merchant, Willamina, Ore.

Class of 1897

MASTER OF SCIENCE

Davis, Homer ----- Physician, Genoa, Neb.

BACHELOR OF SCIENCE

Ainsworth, Cephas B. ----- Land, 406 Idaho St., Lewiston, Mont.
 Atkinson, George ----- Teacher, Roseglen, N. D.
 Atkinson, Walter ----- Civil Eng., 527 W. 61st St., Chicago, Ill.
 Boyden, Frank E., Physician and Surgeon -----
 ----- 116 Lewis St., Pendleton, Ore.
 Clevenger, John W. ----- Dentist, Chamberlain
 Hargis, Christie (Saylor) ----- 913 Douglas St., Des Moines, Ia.
 Hazle, Wm. A. ----- Adj. Gen. South Dakota, Aberdeen
 Husted, Harley H. ----- Died Jan. 14th, 1907, at Lincoln, Neb.
 Jolley, Wm. G. ----- Teacher, 5032 60th St. S. E., Portland, Ore.

Madden, Kathryn (Crowley) Librarian, Chemistry -----
 --- Bldg., U. of Minn., 84 Spruce Place, Apt. 214, Minneapolis, Minn.
 Olson, Eva L., --- Supt. Schools, 221 4th Ave. N., South St. Paul, Minn.
 Parsons, Thos. S., Crop Specialist, Extension Division, U. of W. ---
 ----- 807 S. 7th., Laramie, Wyo.
 Roe, Robert ----- R. 1, Box 44, Medford, Ore.
 Shuster, John W., --- Asso. Prof. Elec. Eng., U. of Wisconsin, Madison
 Thornber, Walter S., ----- Orchardist, Lewiston, Idaho
 Walters, Wm. H. ----- Real Estate, Brookings
 West, Orpha (Sevy) ----- Teacher, Milton, Ore.
 Whaley, Neva (Harding) ----- Brookings
 Whitehead, Bower T. ----- Died April 1, 1917, at Brookings
 Wilcox, Alice (Remsburg) ----- Thawville, Ill.
 Work, Lloyd E. ----- Vice Pres. Elston & Co., Chicago, Ill.
 Young, Grace (Bullen) ----- Died May, 1921 at Portland, Ore.

Class of 1898

MASTER OF SCIENCE

Chilcott, E. C., Agronomist in charge of Dry Land Agriculture ---
 ----- Washington, D. C.
 Harkins, Lilla A., Home Demonstration Agent, -----
 ----- 516 Wait Building, Decatur, Ill.
 Parsons, Thos. S., Crop Specialist, Extension Division, U. of W. ---
 ----- Laramie, Wyo.

BACHELOR OF SCIENCE

Ainsworth, Howard, Fruit Grower, R. F. D. No. 17, Mountain View, Cal.
 Ainsworth, Flora (Hazle) ----- Aberdeen
 Barton, Alice (White) ----- 413 E. Walnut St., Santa Ana, Cal.
 Beck, Louis ----- Garage Owner, Anaheim, Cal.
 Bolles, Myrick N. ----- Farmer, Flandreau
 Curtiss, Elsie (Crane) ----- Kettle Falls, Wash.
 Davidson, Margaret (Crane) ----- 1727 Ruby St., Spokane, Wash.
 Fjerestad, Hans C. ----- Merchant, 1012 42 St., Los Angeles, Cal.
 Harding, Charles J. ----- Teacher, Carpenter, S. D.
 Hegeman, Maude (Boyden) ----- 116 Lewis St., Pendleton, Ore.
 Hegeman, Mabel (Allison) ----- Univ. of Wash., Seattle, Wash.
 Hodgeson, Herbert H., Top. Eng., U. S. Geol. Survey, Silver Spring, Md.
 Knox, Wm. H., Gen. Manager Ariz. Cotton Growers Association, --
 ----- R. F. D. No. 1, Box 126, Phoenix, Ariz.
 Lawrence, Claude W. ----- Farmer, Sequim, Wash.
 Lawrence, Clay ----- Attorney, Pioneer Bldg., Seattle, Wash.
 Loveland, Addie (Towne) ----- 2104 Penn. Ave. S., Minneapolis, Minn.
 Paddock, Jay M. ----- Died Dec. 16, 1916 at Eugene, Ore.
 Riemann, Edith (Adams) ----- Galion, Ohio

Thornber, Wm. T. ----- Farmer, Coleman
 Towne, Judson, Teacher Physics, E. Side H. S. -----
 ----- 2104 Penn. Ave. S., Minneapolis, Minn.

PHARMACY GRADUATES

Beebe, Jay L., Phy. & Surgeon, First Natl. Bank Bldg., Anaheim, Cal.
 Clevenger, J. W. ----- Dentist, Chamberlain
 Holsey, Joseph ----- Druggist, Veblen
 Lee, Berton E. ----- Accountant, 104 S. 4th St., Mankato, Minn.

Class of 1899

MASTER OF SCIENCE

Dibble, Hattie (Stow) ---- Home Demonstration Agent, Everett, Wash.
 Mathews, Hubert B., Vice Dean of Faculty and Prof. of Physics ---
 ----- S. D. S. C.
 Thornber, Walter S. ----- Orchardist, Lewiston, Mont.
 Whitten, John C. ----- Prof. of Pomology, U. of California, Berkeley

BACHELOR OF SCIENCE

Colegrove, Ina (Nelson) ----- 11 Haviland St., Worcester, Mass.
 Findeis, Philip ----- Lumber Merchant, Miranda
 Lawrence, Mary M., Home Management Specialist, Extension Div.,
 ----- Washington State College, Pullman
 Lawrence, W. H., Captain U. S. Army Service, F. B. V. E. -----
 ----- Salt Lake, Utah
 Mason, Nellie (Mason) ----- Albia, Iowa
 Nachtigal, Isaac ----- Supt. Schools, Climbing Hill, Ia.
 Sherwin, Howard H. ----- Civil Eng., 28 Gilbert Place, Yonkers, N. Y.
 Walters, Edith (Fystrom) ----- Died May 15, 1910, at Genesco, N. D.
 West, George ----- Physician, Armstrong, Iowa

PHARMACY GRADUATES

Carr, George ----- Druggist, Bison
 Crowley, D. C. ----- Auto Dealer, San Jose, Cal.
 Hepner, Frank ----- Asst. Chemist, U. of Wyoming, Laramie
 Kendall, Clinton D. ----- Druggist, Brookings
 Lindsey, Charles ----- Farmer and Banker, Regan, N. D.
 Oulton, Frank ----- Abstractor, Choteau, Mont.
 Shriver, E. M. ----- Real Estate, Coos Bay, North Bend, Ore.
 Taylor, C. DeWitt -----

Class of 1900

BACHELOR OF SCIENCE

Allen, Hart M. ----- Druggist, 33 Clubhouse, Venice, Cal.
 Anderson, Clark W. ----- Died March 6, 1902, at Brookings

Beebe, Jay L., Phy. and Surgeon, First Natl. Bank Bldg., Anaheim, Cal.
 Carlson, Esther (Lilygreen) ----- 701 Magnolia St., St. Paul, Minn.
 Carlson, Ella (Howard) ----- Lake Preston
 Davies, Sara (Sherwin) ----- 28 Gilbert Place, Yonkers, N. Y.
 Davies, Mary (Hutchins) ----- Falls City, Neb.
 DeLa, John W. R. H. ----- Editor Drake News, Drake, N. D.
 Doughty Mattison, W., Div. Engineer with Delaware, Lackawanna
 ----- & W. Ry., Hoboken, N. J.
 Grove, Frank W. ----- Dentist, Delta, Colo.
 Harza, Carl ---- Supt. of Meter Insts., 337 Tuxedo Ave., Detroit, Mich.
 Kendall, Clinton, D. ----- Druggist, Brookings
 Lawrence, Jessie (Hagerman) ----- Box 118 R. 1, Auburn, Wash.
 Mathews, Alice (Albright) ----- Black Eagle, Mont.
 Mathews, Roscoe A. ----- Lumber and Coal, Dutton, Mont.
 Morrison, Freda (Cole) ----- Home Demonstration Agent, Elbon
 Olson, Gustava (Hodgeson) ----- Silver Springs
 Williams, Callie (Olson) ----- 231 Summit Ave., Sioux Falls

PHARMACY GRADUATES

Baldwin, Corwin B. ----- Druggist, Rapid City
 Bentley, Wm. S., Examining Physician, F. B. V. E. -----
 ----- Keith Plaza Bldg., Minneapolis, Minn.
 Brosseau, Jesse E. ----- Physician and Surgeon, Frankfort
 Connell, John C. ----- Druggist, Luverne, Minn.
 Else, Earl ---- Physician and Surgeon, Broadway Bldg., Portland, Ore.
 Eckhart, Henry ----- Died at Menno, S. D.
 George, William A. ----- Physician and Surgeon, Selby
 Hart, Bertrand M. ----- Physician and Surgeon, Onida
 Jones, Robert ----- Drug Salesman, Madison
 West, Hugh H. ----- Physician and Surgeon, Spurling Bldg., Elgin, Ill.

Class of 1901

MASTER OF SCIENCE

Knox, Wm. H. ---- Sec. Egyptian Cotton Growers' Assn., Phoenix, Ariz.
 Whitehead, Bower T. ----- Died April 1, 1917 at Brookings

BACHELOR OF SCIENCE

Bagley, Susanna ---- Teacher, 3012 Ezekiel St., Lake Co., Zion City, Ill.
 Bolles, Laura Jane --- Science Instructor, State Normal, Kearney, Neb.
 Boyd, Mary (Labbitt) ----- 2709 S. Glass St., Sioux City, Ia.
 Brosseau, Jesse E. ----- Physician, Frankfort
 Cranston, Margaret (Young) ----- Died June 7, 1907, at Oakes, N. D.
 Culhane, Michael E. President Culhane Adjustment Co., -----
 ----- 3714 Pillsbury Ave. South, Minneapolis, Minn.
 Davies, Autumn, Instructor in Political Science, H. S. -----
 ----- 1009 S. 30th Ave., Omaha, Neb.

Dodge, Fred E. -----	Hotel Manager, Redfield
Else, Earl -----	Physician and Surgeon, Broadway Bldg., Portland, Ore.
Enos, Winifred (Kendall) -----	Brookings
Erickson, Martin L. -----	Petroleum Engineer, Fullerton, Cal.
Evans, Lina (Roskie) -----	Abstractor, Brookings
Fishback, Myra (Kennedy) -----	62 Machua Bazaar St., Calcutta, India
Harza, LeRoy F. -----	Civil Engineer, 115 S. Dearborn, Chicago, Ill.
Hatton, John H. -----	Forestry Service, Washington, D. C.
Johnson, Rhoda (Lee) -----	Died Oct. 18, 1909, Denver, Colo.
Kendall, Leonard J. -----	Telegraph Operator, Brookings
Kennedy, C. LeRoy -----	Fruit Raiser, 927 5th St., Santa Monica, Cal.
Langdon, Lillian (Culhane) ---	3714 Pillsbury Ave., Minneapolis, Minn.
McElmurry, Loretta -----	
-----	Instructor Domestic Science, Agricultural College, Fargo, N. D.
Mork, Theodore -----	Farmer, Des Lacs, N. D.
Phillips, Florence (Haas) -----	Volga
Phillips, C. Louise, Scientific Assistant, Bureau of Markets -----	
-----	Euclid St., N. W., Washington, D. C.

PHARMACY GRADUATES

Cornell, Edward -----	Druggist, 1344 Thomas St., St. Paul, Minn.
Tidball, Clyde -----	Druggist, Brookings

Class of 1902

BACHELOR OF SCIENCE

Fleming, Michael ---	City Mgr., M. A. Hanna Coal Co., St. Paul, Minn.
George, William A. -----	Physician and Surgeon, Selby
Hart, Bertrand M. -----	Physician and Surgeon, Onida
Hepner, Frank E. -----	Chemist, U. of Wyoming, Laramie
Johnson, Clara (Johnson) -----	Brookings
Johnson, Edward -----	Died May 1, 1907, Tacoma, Wash.
Kephart, George -----	City Attorney, 421 Iowa Bldg., Sioux City, Iowa
Lee, Berton E. -----	Accountant, 104 S. 4th St., Mankato, Minn.
Ramsey, Henry J., Field Manager Cal. Fruit Growers Exchange ---	
-----	1656 N. Los Robles, Pasadena, Cal.
Roskie, Geo. -----	Vice Pres. Bank of Brookings, Brookings
Thornber, Edith (Cuckow) -----	La Junta, Colo.
Trooien, Ole N. -----	Died Dec. 21, 1915, at Brookings
Winegar, Laura -----	Office Secretary, Sioux Falls

PHARMACY GRADUATES

Allison, Wm. F. -----	Prof. of Civil Eng., U. of Wash., Seattle, Wash.
Boyden, Frank E. -----	Physician and Surgeon, Pendleton, Ore.
Christianson, Bernett -----	Druggist, Volga
Hayter, McPherson -----	Merchant, Artesian

Jarratt, Arthur A. -----	Druggist, Colman
Jarvis, S. Hall -----	Druggist, Faulkton
Leighty, James A. -----	Druggist, Winfred
Morton, Frederic M. -----	Druggist, Lake City
Pickles, Chester E. -----	Farmer, Elrod
Schnaidt, Henry -----	Druggist, Parkston
Schroeder, Anna (Gassman) -----	Druggist, Marion

Class of 1903

MASTER OF SCIENCE

Crane, Austin B. -----	Drainage Specialist, Everett, Wash.
Hoy, Howard H. -----	Asso. Prof. of Phys. and Mech. Eng., S. D. S. C.

BACHELOR OF SCIENCE

Almond, Fred C. -----	Died March 12, 1909, at Clear Lake
Cole, John S., Asst. Dry Land Exp. Stations, Dept. of Agr. -----	
-----	430 Newton Place, Washington, D. C.
Colegrove, Lettie (Drew) -----	Atlanta, Ga.
Cuckow, Fred W. -----	Lawyer, La Junta, Colo.
Hubbart, Minnie (Holbein) -----	Bismarck, N. D.
Johnson, Isaac -----	Lumberman, Brookings
Kendall, Krete (Miller) -----	
-----	25 Sidney Place, Prospect Park, Minneapolis, Minn.
Langdon, Alice, Stenographer -----	
-----	1343 Clifton St., N. W., Washington, D. C.
Miller, Shirley P., Instructor Zoology, Medical Dept., Univ. of Minn. -----	
-----	25 Sidney Place, Prospect Park, Minneapolis, Minn.
Norton, Frank E. -----	Fruit Grower, Grand View, Wash.
Otterness, Jens M., Private Secretary to Senator Sterling -----	
-----	411 Senate Office Bldg., Washington, D. C.
Peirce, E. Esther -----	Teacher, Billings, Mont.
Sanborn, Ethel I. -----	Instructor in Botany, State Univ. Eugene, Ore.
Sarvis, Roscoe J. -----	Telephone Engineer, Aberdeen
Seide, Louise (Prell) -----	Calamus, Iowa
Webster, James L. -----	Farmer, Wenatchee, Wash.
Wescott, Geo. R., Asst. Engr., Mo. Pac. Ry. -----	
-----	5764 Goodfellow Ave., St. Louis, Mo.

PHARMACY GRADUATES

Drew, Arthur W. -----	Physician and Surgeon, Atlanta, Ga.
Hall, Roy J. -----	Druggist, Oldham
Heston, Edward C. -----	Physician and Surgeon, Roslyn, Wash.
Hollister, Arthur R. -----	Traveling Salesman, Madison
Howell, John E. -----	Chemist, S. P. R. R., Houston, Texas
Johnston, Samuel -----	Druggist, Hazel

Norton, Frank E. ----- Fruit Grower, Grand View, Wash.
 Steiner, Fredrick W. --- Physician, 323 Union Ave., Havre de Grace, Md.
 Trumm, Robert E. ----- Druggist, Hayti
 Van Dusen, Fred J. ----- Pharmacist, Lead
 Williams, Percy ----- Physician and Surgeon, Los Angeles, Cal.
 Young, Alfred J. ----- Farmer, Adanac, Saskatchewan

Class of 1904

MASTER OF SCIENCE

Trooien, Ole N. ----- Died Dec. 21, 1915, at Brookings

BACHELOR OF SCIENCE

Binford, Wm. W. ----- Garage Owner, Whittier, Cal.
 Bushnell, Maude (Kelton) ----- Poynette, Wis.
 Loucks, Anna Y. (Brown) ----- Brookings
 Mattice, Albert F. --- Phy. and Surgeon, 614 Cobb Bldg., Seattle, Wash.
 McGarry, Lawrence R. ----- Real Estate, Northville
 Ruth, Thomas H. ----- Veterinary Surgeon, De Smet
 Sanderson, Everett G. ----- Farmer, Aurora
 Sherwin, Ralph L. ---- Coal Operator, 331 Wheeler Ave., Scranton, Pa.
 Smith, Wm. J. ----- Missionary, Silliman College, Damaguete, P. I.
 Thompson, Clarence ----- Farmer, Dell Rapids
 Walter, L. Irving ----- State Chemist, Laramie, Wyo.

PHARMACY GRADUATES

Anderson, Ernest ----- Druggist, Aberdeen
 Dillon, Cornelius ----- Druggist, 215 5th Ave., Eugene, Ore.
 Frick, Harry A. ----- Candy Manufacturer, Mitchell
 Goodale, Alton R. ----- Druggist, Aberdeen
 Hooker, Henry ----- Physician, Danville, Ill.
 Koch, Arthur E. ----- Attorney, 507 Vinton Bldg., Detroit, Mich.
 Ramsdell, Leonard C. ----- Died July 1, 1919, at Flandreau
 Thompson, Gottfried ----- Physician and Surgeon, Sioux Falls
 Weisflock, Theodore ----- Druggist, Frankfort

Class of 1905

MASTER OF SCIENCE

Hepner, Frank ----- Chemist, U. of Wyoming, Laramie
 Norton, Frank A. ----- Fruit Grower, Grand View, Wash.
 Phillips, C. Louise, Librarian, U. S. Dept. of Agriculture -----
 ----- 1424 Euclid St. N. W., Washington, D. C.
 Thompson, Clarence ----- Farmer, Dell Rapids
 Walter, L. Erving ----- State Chemist, Laramie, Wyo.

BACHELOR OF SCIENCE

Boyden, Guy L.	Physician and Surgeon, Pendleton, Ore.
Chappell, Bessie	Prof. Home Economics, State Uni., Laramie, Wyo.
Chappell, Elsie (Wilson)	Brookings
Davis, Clifford W.	Farmer, Hawley, Cal.
Elliott, Roy K.	Electrician, 20 Bay State Ave., West Somerville, Mass.
Fassett, Della (Loucks)	Watertown
Fishback, Van Dusen	Loans, Brookings
Forrest, Victor E., Chief Eng. Grain Dealers Supply Co.	
.....	4936 Thomas Ave., South Minneapolis, Minn.
Fulkerson, Vincent	Special Agent, Dept. of Agr., Fallon, Nev.
Grove, Mary (Potter)	Marshall, Ill.
Hage, C. F.	Druggist, Toronto
Howg, Edwin M.	Physician and Surgeon, New Effington
Jensen, Lewis N.	Insurance, Amarillo, Tex.
Johnson, Carl L.	Elec. Eng., 26 Livingston Ave., Pittsfield, Mass.
Mathews, Harry E.	Railway Service, Las Vegas, Nev.
Miller, Ralph L., Deputy Grand Secretary, Masonic Grand Lodge --	
.....	Fargo, N. D.
Murphy, Matt W.	Lawyer, 408 8th Ave. S., Fargo, N. D.
Nelson, John Harland, Professor of Structural Engineering	
.....	Worcester Polytechnic Institute, 11 Haviland St., Worcester, Mass
Ronning, Oscar E.	Supt. of Schools, Wilmot
Schaphorst, Wm. F.	
.....	Mnf. Refrigerating Machinery, 45 Academy St., Newark, N. J.
Slocum, Ina S. (Deeley)	2818 Granville St., S. Vancouver, B. C.
Thogerson, Arthur A.	Contractor, 305½ Morrison St., Portland, Ore.
Walters, Daisy	Teacher, Bruce
Williams, Harry ---	Investments, 2701 Wilshire Blvd., Los Angeles, Cal.
Williams, Percy	Physician and Surgeon, Los Angeles, Cal.

PHARMACY GRADUATES

Fjerestad, Carl	Druggist, Elkton
Howg, Edwin M.	Physician and Surgeon, New Effington
Larson, Lars P.	Inst., Agr. and Manual Tr., Wellman, Iowa
Mathews, Harry E.	Railway Service, Las Vegas, Nevada
McCurdy, Walter	Banker, Lane
Morton, Grant J., Chief Denver Division, Bureau of Chemistry, U. S.	
.....	Department of Agr., Tabor Opera House Bldg, Denver, Colo.
Pottinger, Geo.	Druggist, Valley Springs
Thompson, Clarence	Farmer, Rell Rapids
Volin, Porter	Physician and Surgeon, Lennox

Class of 1906
BACHELOR OF SCIENCE

Aldrich, G. Malcolm, Prin. Calhoun School -----
----- 3220 Second Ave. S., Minneapolis, Minn.
Barrett, Wylie J. ----- Died Feb. 1920, at Plankinton
Bonesteel, Bee (Dillman) ----- Mandan, N. D.
Brownell, Ellen (Wellington) ----- R. F. D., Calipatria, Cal.
Burghardt, Roy D., Pres. Burghardt & Hauff Elec. Co. -----
----- 1007 1st Ave., Seattle, Wash.
Carpenter, Abbie (Challman) ----- E. 1121 Nora Ave., Spokane, Wash.
Chillcott, Ellery F., District Supt. Dry Land Experiment Stations --
----- Woodward, Okla.
Coller, Fred A., Asst. Prof. of Surgery, State University, -----
----- Ann Arbor, Mich.
Davies, Gladys (Grace) ----- Mitchell, Neb.
Erstad, Alfred J., President Standard Mach. Co. -----
----- 314 Albemarle Terrace, Portland, Ore.
Evans, Edna (Craig) ----- East Farms, Wash.
Grace, Oliver ----- Farmer, Mitchell, Neb.
Kennard, Frank L. ----- Washburn-Wilson Produce Co., Moscow, Idaho
Knox, Arthur H. ----- Farmer, Alpena
Koch, Arthur E. ----- Lawyer, 507 Vinton Bldg, Detroit, Mich.
Moffatt, Margaret E. ----- 2008 Madison Ave., San Diego, Cal.
Reich, Rose M. ----- Dietitian, 1707 Main St., LaCrosse, Wis.
Thornber, Jessie B. ----- Instructor Home Economics, Ashton, Idaho
Youngberg, Guy E. --- Chemist, 24 High St., Buffalo Uni., Buffalo, N. Y.

PHARMACY GRADUATES

Allison, Harold ----- Physician and Surgeon, Amity, Ore.
Bergeim, Olaf, Asst. in Chem., Jefferson Med. College -----
----- 10th and Walnut Sts., Philadelphia, Pa.
Davies, Gladys (Grace) ----- Mitchell, Neb.
Harben, Bartlett L. ----- Died June 10, 1912, at Winner, S. D.
Holm, A. B. ----- Farmer, Brookings
Locke, Chas. ----- Druggist, Webster
Wipf, Michael J. ----- Druggist, Alsen, N. D.

Class of 1907
MASTER OF SCIENCE

Culhane, Michael E., Culhane Adjustment Company -----
----- 3714 Pillsbury Ave., Minneapolis, Minn.

BACHELOR OF SCIENCE

- Binnewies, Mabel (Shanley) ----- Sioux Falls
 Briggs, Stephen F., of Briggs & Stratton Co. -----
 ----- 258 Milwaukee St., Milwaukee, Wis.
 Burch, Walter S., Elec. Engr., with Rochester Railway & Light Co.
 ----- 81 S. Fitzhugh St., Rochester, N. Y.
 Christianson, Christine (Buck) ----- 1518 S. Wash., Denver, Colo.
 Dillman, Arthur C., Cereal Investigations, Dept. of Agr. -----
 ----- Washington, D. C.
 Dutcher, R. Adams Prof. Agr. Chem., State College, State College, Pa.
 Elliott, Bruce A. ----- Died Oct. 29, 1917, at Brookings
 Elliott, Ross W., Manual Training and Dean of Junior College -----
 ----- 406 Lincoln St., Hibbing, Minn.
 Fjerestad, Alman ----- Electrical Engineer, Estelline
 Gagel, Gerald ----- Died June 1st, 1919, at Bauming, Cal.
 Hofstetter, Geo., Instructor Manual Training, Box 1342, Spokane, Wash.
 Johnson, Aaron G., Plant Pathologist, U. of Wis. -----
 ----- 1517 Chadbourne St., Madison, Wis.
 Kirk, John R. ----- Farmer, Springfield
 Knutson, Mabel (Trooien) ----- County Supt., Brookings
 McCordic, Clare ----- Farmer, Groton
 McElmurray, Rilla (Eells) ----- 916 W. Genesee St., Syracuse, N. Y.
 Morton, Grant J., Chief Denver Div., Bureau of Chem., U. S. Dept. of
 ----- Agr., Tabor Opera House Bldg., Denver Colo.
 Reich, J. Carl, Supt. of Labor, Firestone Tire and Rubber Co. -----
 ----- Akron, Ohio
 Salmon, Cecil, Prof. Agronomy, Kansas Agr. College -----
 ----- 1630 Leavenworth, Manhattan
 Sanderson, Eugene, Telephone Power Plant Engineer -----
 ----- 56 Woodward Ave., South Norwalk, Conn.
 Tuttle, Volney J., General Electric Co., D. C. Eng. Dept. -----
 ----- Schenectady, N. Y.
 Underwood, Genevieve (Schmidt) ----- Bryant
 Westcott, Ruth M. (Johnson) --- 1517 Chadbourne Ave., Madison, Wis.
 Work, Mary L. ----- Stenographer, 1507 Penn. Ave., Des Moines, Ia.

PHARMACY GRADUATES

- Dexter, David F., Member State Board of Pharmacy, Druggist, Canton
 Ennis, Herbert I. ----- Druggist, Volga
 Kartrude, Inga M. ----- Teacher, Hardwick, Minn.
 Roney, Ray W. ----- Druggist, Chester

Class of 1908

MASTER OF SCIENCE

- Coller, Fred A. ----- Asst. Prof. of Surgery, Ann Arbor, Mich.
 Koch, Arthur E. ----- Lawyer, 507 Vinton Bldg., Detroit, Mich.

ELECTRICAL ENGINEER

Elliott, Ross W., Manual Training and Dean of Junior College ----
 ----- 406 Lincoln St., Hibbing, Minn.

BACHELOR OF SCIENCE

Alton, Benjamin H., Physician and Surgeon -----
 ----- 72 Pearl St., Worcester, Mass.
 Bergeim, Olaf, Asst. in Chem., Jefferson Medical College -----
 ----- 36 S. Yewdell St., West Philadelphia, Pa.
 Carpenter, Clarence A. ----- Electrical Engineer, Rapid City
 Chilcott, Ralph ----- Farmer, Vienna, Va.
 Cooley, William R. ----- Stockman, Springfield
 Griffith, T. Edwin ----- Captain, U. S. A., Pittsburg, Pa.
 Holsey, Ernest ----- Elec. Eng., Spokane, Wash.
 Hubbart, Edith J. -- Librarian, State College, 411 Welch Ave., Ames, Ia.
 Hyde, Hallie W. ----- Inst. Dom. Sci., U. of Idaho, Boise
 Kelly, Amy, Home Dem. Specialist, Extension Div., State University
 ----- Boise, Idaho
 Kendall, Nellie G. ----- Instructor in English, S. D. S. C.
 Locke, Francis J. ----- Elec. Eng., 119 Park Ave., Mt. Vernon, N. Y.
 Mathews, Oscar R. ----- Expert Dry Land Agr., Newell
 Mayland, Amy ----- Died Feb. 17, 1909, at Lincoln, Neb.
 Mayland, George R. ----- Fruit Grower, Baldwin Park, Cal.
 Nelson, Aaron L. ----- Elec. Eng., Schenectady, N. Y.
 Nilsson, Edward, Artist, Capital Engraving Co. -----
 ----- 709 West Vine St., Springfield, Ill.
 Olberg, Fred C. ----- 6401 32nd Ave. N. W., Seattle, Wash.
 Perry, William J., Electrical Engineer -----
 ----- 3218 Summer St., West Philadelphia, Pa.
 Soreng, Edgar M., Machine Designer with Briggs-Stratton Co. -----
 ----- Stratford Arms Hotel, Milwaukee, Wis.
 Sperb, John J. ----- Civil Eng., Ocean Falls, B. C., Canada
 Ulrich, Darwin William ----- Farmer, Alma, Wis.
 Underwood, Beatrice ----- Teacher, Watertown
 Underwood, Loto (White), Brooklyn Botanical Gardens -----
 ----- Brooklyn, N. Y.
 Weeks, Gordon A., Electrical Engineer, 711 Post St., San Francisco, Cal.
 West, Florence E. ----- Teacher, Bruce
 Whitehead, Lindsey W. ----- Instructor Civil Eng., State College, Pa.
 Williams, Ruby (Heil) ----- Long Beach, Cal.

PHARMACY GRADUATES

Hoch, Joseph L. ----- Druggist, Tyndall
 Murphy, Capt. James P. ----- 42nd. Inf. U. S. A., Canal Zone, Panama

Olberg, Fred C. ----- Druggist, 6401 32nd Ave., Seattle, Wash.
 Quiggle, Ernest J. ----- Druggist, Groton

Class of 1909

MASTER OF SCIENCE

Mathews, Oscar R. ----- Expert Dry Land Agr., Newell

ELECTRICAL ENGINEER

Elliott, Bruce A. ----- Died Oct. 29, 1917, at Brookings
 Schaphorst, Wm., Refrigerator Manufacturer -----
 ----- 45 Academy St., Newark, N. Y.

BACHELOR OF SCIENCE

Bacon, Eva (Paulson) ----- Castlewood
 Bushnell, Edna (Lindahl) ----- Roseau, Minn.
 Camp, Fred ----- 104 E. 10th Ave., Spokane, Wash.
 Catlett, Winifred (Swering) ----- 43 Atlantic St., Buffalo, N. Y.
 Champlin, Manley, Prof. Field Husb., Saskatchewan Agr. College --
 ----- Canada
 Clarke, Roy ----- Supt. Schools, Oregon City, Ore.
 Coughlin, Chas. ----- Gen. Mgr., Ladish Drop Forge Co., Cudahy, Wis.
 Denhart, Cecil ----- Grain Dealer, White
 Erwin, Ada ----- Home Eco., Ex. Dept., State University, Boise, Idaho
 Evans, Iva (Morrison) ----- 433 Waverly Place, Spokane, Wash.
 Furnstahl, John ----- Died Dec. 16, 1916, at Ajo, Arizona
 Jensen, Harvey ----- Lawyer, Minneapolis, Minn.
 Jones, Robert ----- Lawyer, Milbank
 Kremer, Alvin ----- Cashier, U. S. Natl. Bank, Portland, Ore.
 Lane, Lloyd ----- Farmer, R. F. D., Madison
 McKeown, Ralph ----- Farmer, Elkton
 Marquis, Sidney -- Electrical Engineer, 2298 E. 85th St., Cleveland, Ohio
 Matheney, Chester -- Sales Mgr. Republic Flow Meter Co., 55 Conestoga
 ----- Bldg., Pittsburg, Pa.
 Odland, John ----- Farmer, Hurley
 Palm, Ellen (Olson) ----- Lake Norden
 Peirce, Ruth, Librarian, --- 4419 N. Racine Ave., 2nd. Apt., Chicago, Ill.
 Phillips, Geo. C. ----- Died May 8, 1921 at St. Paul, Minn.
 Sarvis, Johnson ----- Special Agent, Dept. of Agr., Mandan, N. D.
 Sperb, Frank ----- Farmer, Woodburn., Ore.
 Swering, Joe, Sales Mgr., Westinghouse Mfg. Co., 43 Atlantic St. --
 ----- Buffalo, N. Y.
 Treacy, Timothy, Catholic Priest, 487 Mich. Ave. S. E., Washington, D. C.
 Vernlund, Carl, Physician and Surgeon, Professional Building -----
 ----- 179 Allyn Street, Hartford, Conn.
 White, Orland, -- Botanist, Brooklyn Botanical Gardens, Brooklyn, N. Y.

Wickre, Jacob ----- Assemblyman and Farmer, Langford
 Wright, Mary (Dutcher) ----- 1411 Chelmsford St., St. Paul, Minn.

PHARMACY GRADUATES

Abbott, Guy S. ----- Druggist, Yale
 Buck, Ervin ----- Hotel Proprietor, Wessington Springs
 Crosby, LeRoy ----- Druggist, Hitchcock
 Dickey, James ----- Druggist, Iroquois
 Hage, Christian ----- Druggist, Toronto
 Wilson, Frank M. ----- Medical Student Reed College, Portland, Ore.
 Youngberg, Guy E., Prof. of Chemistry, University of Buffalo, -----
 ----- Buffalo, N. Y.

Class of 1910

MASTER OF SCIENCE

Alton, Benjamin H., Physican and Surgeon -----
 ----- 72 Pearl St., Worcester ,Mass.
 Dutcher, R. Adams, Prof. of Chem., U. of Minn., 1411 Chelmsford St.,
 ----- St. Paul, Minn.
 Youngberg, Guy E. ----- Prof. of Chem., U. of Buffalo, Buffalo, N. Y.

MECHANICAL ENGINEERING

Hofstetter, George -- Instr. Manual Training, Box 1342, Spokane, Wash.

BACHELOR OF SCIENCE

Atkinson, Fay ----- Farmer, Coal Harbor, N. D.
 Barber, Floyd ----- Civil Engineer, Everett, Wash.
 Biggar, Howard H. -----
 ----- Assoc. Editor Drovers' Stockman Journal, Omaha, Neb.
 Crothers, Harold, Asst. Prof. of Elec. Eng., Eng. Bldg., State Uni.
 ----- Madison, Wis.
 Crothers, Ralph ----- Farmer, Badger
 Fickle, Walter ----- Died Jan. 26, 1911, at Blunt
 Fridley, Ray ----- Real Estate, Brookings
 Grotta, Edwin ----- Implement Dealer, Esmond
 Johnson, Charles ----- Hardware Merchant, Hetland
 Johnson, Milla (Anderson) ----- Died Nov., 1918, at New England, N. D.
 Kartrude, Inga ----- School Principal, Kenneth, Minn.
 Kelly, T. B. ----- Prof. of Music, 4624 Colfax Ave. S., Minneapolis, Minn.
 Lothrop, Elmer ----- Electrical Engineer, Redfield
 Lloyd, Robert ----- Elec. Contr., Hollywood, Cal.
 Matheny, Allie (Woledge) ----- 105 7th St. S. E., Minot, N. D.
 Matheny, Fred, Patent Attorney, 2004 L. C. Smith Bldg., Seattle, Wash.
 Morrison, Joseph ----- State Senator & Farmer, Elbon
 Nagel, Herman ----- Chemist, Cedar Rapids, Ia.

Ort, A. A., Civil Engineer, Lt. U. S. N., % Eng. in Chief, Port au Prince,
 ----- Haiti; via Postmaster, N. Y. City
 Palm, Andrew ----- Farmer, Pine River, Minn.
 Sexauer, Elmer ----- Grain, Brookings
 Sheldon, Nettie (Atkinson) ----- Coal Harbor, N. D.
 Wahl, Walker W. ----- Real Estate and Live Stock, Rosebud, Mont.
 Welch, Cecile (Sexauer) ----- Brookings
 Wohlheter, Verne ----- Attorney, Watertown
 Yocom, Frank ----- Inst. in Manual Training, Holtville, Cal.

PHARMACY GRADUATES

Brown, Geo. B. ----- Druggist, Clark
 Goldthorp, George ----- Druggist, Conde
 Morrison, Joseph ----- State Senator and Farmer, Elbon
 Williams, Arthur ----- Pharmacist, Aberdeen

Class of 1911

MASTER OF SCIENCE

Sarvis, Johnson ----- Special Agent, Dept. of Agr., Mandan, N. D.
 White, Orland, -- Botanist, Brooklyn Botanical Gardens, Brooklyn, N. Y.

BACHELOR OF SCIENCE

Balmat, John ----- Captain U. S. A., Fort Leavenworth, Kan.
 Catlett, Marguerite ----- Instructor English and History, Rapid City
 Coolege, Leslie ----- Asst. Prof. Bacteriology, East Lansing, Mich.
 Cottingham, Jay T. ----- Cashier, Colorado Springs, Colo.
 Erwin, Ruth (Bibby) ----- Brookings
 Finley, Vollmar ----- Farmer, Bushnell
 Fridley, Bess (Fromme) ----- Blacksburg, Va.
 Fridley, Richard ----- Died Aug. 23, 1912, at Lake Benton, Minn.
 Fromme, Fred, -- Prof. of Bot., Va. Inst. of Technology, Blacksburg, Va.
 Gropengieser, Fred ----- Died December 15, 1918, at Onida
 Haas, Carrie (Quinn) ----- Died July 3, 1919, at Badger
 Hallen, Harold ----- Electrical Engineer, Ord, Neb.
 Huntmer, Percy ----- Co. Agr. Agt., Melrose, Minn.
 Jarman, Maebell ----- Instr. Home Economics, Aberdeen
 Johnson, Clifford ----- Died September, 1912, at Huron
 Knutson, Geneva (Flittie) ----- Brookings
 Ladd, Amy ----- R. F. D., Brookings
 Mathewson, Lynn ----- Mech. Eng., 6219 Kenwood Ave., Chicago, Ill.
 McMillian, Orville ----- Teacher, Alpena
 Meharg, Max ----- Inst. Man. Training, Gooding, Idaho
 Mitchell, Harry --- Elec. Eng., 2933 Girard Ave. S., Minneapolis, Minn.
 Odland, Ole M. ----- Minister, Yankton
 Peterson, Helen ----- Dietitian, Lutheran Hospital, Lacrosse, Wis.

Plocker, Florence (Shelden) ----- Perdue, Sask., Canada
 Quinn, Roy ----- Inst. Agriculture, Lemoore, Cal.
 Randall, Frank ----- Pres. Star Electric Co., Aberdeen
 Sherwin, Muriel (Stoll) ----- Brookings
 Starring, Cecil ----- Asst. in Hort., State College, Bozeman, Mont.
 Swenehart, John ----- Ext. Dept., State Uni., Madison, Wis.
 Throop, Lotta (Odland) ----- Hurley
 Tinker, Mabel ----- Clerk, Brookings
 Wilson, R. O., Prof. Business Education and Registrar -----
 ----- Montana State College, Bozeman, Mont.

PHARMACY GRADUATES

Fellows, Carl ----- Druggist, Plankinton
 Martin, Earl S. ----- Merchant, Oldham
 Serles, Earl ----- Prof. of Pharmacy, S. D. S. C.
 Shea, Henry ----- State Chemist, Helena, Mont.
 Vis, Heyme ----- Druggist, Midland

Class of 1912

BACHELOR OF SCIENCE

Atwood, Geo. B. ----- Veterinarian, Arlington
 Bibby, Erwin J. ----- Proprietor Creamery, Brookings
 Bisbey, Guy R., Prof. Plant Pathology, Manitoba University -----
 ----- Winnipeg, Canada
 Dachtler, Fred J. ----- Farmer, Whitewood
 Edson, Ray W. ----- Elec. Eng., % G. E. Co., Ft. Wayne, Indiana
 Erdmann, Henry E., Instructor Agr. Economics, State University --
 ----- Columbus, Ohio
 Granger, Paul F. ----- Civil Eng., 811 E. Anaheim St., Long Beach, Cal.
 Hathaway, Floyd C. ----- Co. Agr. Agent, Grafton, N. D.
 Jensen, Russell C. ----- Farmer, Brookings
 Kremer, Henrietta (Furnstahl) ----- Ajo, Ariz.
 Larson, John E. ----- Farmer, Ridgefield, Wash.
 Marchant, Guy B., Elec. Eng., Service Mgr., General Service Inc.,
 ----- 20 Sibley Place, Minneapolis, Minn.
 Oakland, Irwin S. ----- Dentist, Iroquois
 Peck, Arthur R. ----- Elec. Eng., 11 Second St., Schenectady, N. Y.
 Pence, Clay ----- Elec. Salesman, 826 Ramsey Ave., Wilkinsburg, Pa.
 Reeve, John E. ----- Elec Engr., 125 Benedict Road, Pittsfield, Mass.
 Revell, Grace (Bailey) ----- Instructor Home Economics, Artesian
 Sauder, Wm. O. ----- County Agr. Agt., Center, Colo.
 Schaphorst, Ben ----- Lawyer, Brookings
 Skinner, Lila, Inst. in Home Economics, State University -----
 ----- Columbus, Ohio

Sparks, Henry ----- Civil Engineer, Mitchell
 Stearns, Arthur J. ----- Proprietor Garage, Buhl, Idaho
 Welker, Verne E. ----- Elec. Engr., % N. W. Paper Co., Cloquet, Minn.

PHARMACY GRADUATES

Bacon, Harry ----- Druggist, Edgemont
 Christianson, Helen (Quinn) ----- Pharmacist, Badger
 Clark, Robt. W. ----- Died March 26, 1919, at Sioux Falls
 Farnham, Bernice ----- Druggist, Waubay
 Farrar, Vere ----- Pharmacist, Langford
 Grant, Clyde ----- Pharmacist, Iowa City, Iowa
 Holleman, William ----- Pharmacist, Springfield
 Holstrom, Will ----- Died in Service
 Leavitt, Ethel ----- Pharmacist, Redfield
 Morton, Richard ----- Druggist, Bend, Ore.
 Serles, Raymond ----- Died June, 1916, at McCall, Idaho

Class of 1913

BACHELOR OF SCIENCE

Basgen, Fred, Civil Eng., Duluth, Winnipeg & Pac. R'y. -----
 ----- West Duluth, Minn.
 Binnewies, Edward R. ----- Assoc. Prof of Chem., S. D. S. C.
 Brigham, Ruth ----- Teacher, Brinklow, Md.
 Cole, Glenn H. ----- Farmer, Gary, S. D.
 Dunn, Everett W. --- District Eng., 1321 S. Newton St., Sioux City, Ia.
 Engstrom, Carl, Supt. Hutchinson Division, Northern States Power
 ----- Co., Hutchinson, Minn.
 Faulkner, Hugh ----- Farmer, Burkmere
 Fowlds, Mathew ----- Asst. in Agronomy, S. D. S. C.
 Freiberg, George ----- Botanist, Eitzen, Minn
 Greenly, Maurice ----- Sci. Teacher, 2386 Liloa Rise, Honolulu, Hawaii
 Gurslee, Chris B. --- Dentist, 1636 Marshall Field Annex, Chicago, Ill.
 Heiser, Agnes K. (Yunker) ----- Barnard
 Huyck, Nina B. ----- Dom. Sci. Dem., Rupert, Idaho
 King, Stanley ----- Rural Mail Carrier, Watertown
 Kremer, Ralph C. ----- Mining Eng., Ajo, Ariz.
 Landweer, Earl, Meter Supt., Northern States Power Co., Sioux Falls
 McHugh, Frank James ----- Farmer, West Point, Miss.
 Matheny, Hazel A. ----- Teacher, Conde
 Morrow, Strayer (Sauder) ----- Center, Colo.
 Morrison, Guy E. ----- Inst. in Agr., Springview, Nebr.
 Nilsson, Anna (Patterson) ----- Henning, Minn.
 Nord, Roy A. ----- State's Attorney, Faulkton
 Olson, Thos. G. ----- Elec. Eng., Canby, Minn.
 Pier, Clarence L. ----- Manager Produce House, Detroit, Minn.

Rilling, Harry M. ---	Asst.State Club Leader, N. D. A. C., Fargo, N. D.
Sanderson, Harry M. -----	County Agr. Agent, Philip
Shanley, Clarence -----	Creamery Operator, Sioux Falls
Shea, Henry -----	State Chemist, Helena, Mont.
Shepard, Helen (Atwood) -----	Arlington
Sloan, Edith, Demonstrator	Home Economics, Extension Division
-----	Aberdeen
Somers, Grace (Phillips) -----	Brookings
Sponholz, Lydia (Britzius) -----	Madison
Templeton, Mabel (Johnson) -----	Hetland
Wood, Ruth A. (Burton) -----	Hot Springs

PHARMACY GRADUATES

Eidsmoe, Clark T. -----	Pharmacist, Sisseton
Johnson, Arthur F. -----	Druggist, Forest River, N. D.
Lawler, Frank M. -----	Druggist, Sioux Falls
Null, Ralph H. -----	Pharmacist, Wessington Springs
Simpson, Wm. R. -----	Pharmacist, Flandreau
Soule, Roy H. -----	Druggist, Farmer
Tommeraasen, Corne -----	Pharmacist, Lockwood, Ia.
Wornson, Walter A. -----	Physician and Surgeon, Hartford, Wis.

Class of 1914

BACHELOR OF SCIENCE

Armstrong, Lillian (Kirlin) -----	180 Greenway, Detroit, Mich.
Armstrong, Inez -----	Home Dem. Agt., Yakima, Wash.
Ausman, Leslie V. -----	County Agr. Agent, Watertown
Britzius, Arno -----	Farmer, Madison
Bushey, Alfred -----	Chemist, Agronomy Dept., S. D. S. C.
Casley, Lulu -----	High School Instructor, Bryant
Chappell, Vincent -----	Prof. Dairy Mfg., Agr. Col., Corvallis, Ore.
Clifford, Perry -----	Farmer, Cresbard
Dulitz, Helen -----	Teacher, Wallace, Idaho
Elliott, Robert, Chemist	U. S. Food Laboratory -----
-----	4144 Arcade Building, Seattle, Wash.
Gilbertson, Geo. -----	Assistant Professor of Entomology, S. D. S. C.
Gotthold, Roy -----	Building Contractor, Redfield
Grinols, Hazel (Palm) -----	Pine River, Minn.
Gropengieser, Bessie -----	Abstractor, Onida
Halladay, Clinton -----	Construction Eng., Brookings
Hartgering, Frances -----	Inst. History, 651 Trenton Ave., Wilkinsburg, Pa.
Hegdahl, Paul -----	Civil Eng., Madison
Heck, Emil, Eng. of Tests, U. S. Forests Products Laboratory -----	-----
-----	Madison, Wis.
Hofstetter, Clarence, Capt. U. S. Army,	Raritan Arsenal, Metuchen, N. J.

Knutson, Charlie O. _____ Electrician, Canby, Minn.
 Legler, Edward V. Switchboard Sales Dept., G. E. Co., Schenectady, N. Y.
 Luebke, Esther (Gaffy) _____ Pierre
 Persun, Francis J. E. _____ County Emergency Agent, Faulkton
 Sexauer, Laura _____ Manager Tea Room, Upland, Cal.
 Shepard, Albert D., Chemist, Union Powder Co., Delta Lab. _____
 _____ Arlington, N. J.-
 Slightam, Kate, Instructor in Home Economics, State Normal _____
 _____ Mayville, N. D.
 Sherwood, Reginald _____ Asst. State Chemist, Bozeman, Mont.
 Sloan, Sam _____ County Agr. Agent, Hot Springs
 Somers, Ruth (Haugen) _____ Brookings
 Valentine, Vey _____ Stockman, Moenville
 White, Henry D. _____ Farmer, Florence
 Wilkins, Scott _____ Asst. in Farm Crops, Iowa State College, Ames, Iowa
 Wood, Nina (Sloan) _____ Hot Springs
 Wills, Ernest V., Elec. Eng., with Westingtonhouse Mfg. Co., N. Y. City

PHARMACY GRADUATES

Eng, Julius _____ Pharmacist, Vienna
 Kadinger, Lewis _____ Pharmacist, Lake Preston
 McDougal, Tyrell _____ Medical Student, State Uni., Madison, Wis.
 Nelson, Lewis, Medical Student, U. of M. _____
 _____ 1011 6th St. S. E., Minneapolis, Minn.
 Ray, Winifred _____ Druggist, Aurora
 Shaw, Albert J. _____ Pharmacist, Miller
 Sivertson, Anna (Potter) _____ Pharmacist, Andover

Class of 1915

MASTER OF SCIENCE

Binnewies, Edward R. _____ Assoc. Prof. of Chem., S. D. S. C.
 Mayland, George R. _____ Fruit Grower, Baldwin Park, Cal.
 Shea, Henry _____ State Chemist, Helena, Mont.
 Sherwood, Reginald _____ Asst. State Chemist, Bozeman, Mont.
 Sloan, Sam _____ Co. Agr. Agent, Hot Springs

BACHELOR OF SCIENCE

Bolland, Jens _____ Died Nov., 1919, at Minneapolis, Minn.
 Caldwell, Florence (Heck) _____ % Forests Products Lab., Madison, Wis.
 Caldwell, Lacey _____ Farmer, Wells, Minn.
 Clarke, Bruce _____
 Cooley, Hazel (Keddie) _____ Bear Lake, Mich.
 Culhane, Alexander _____ Asst. in Dairying, S. D. S. C.
 Culhane, James _____ Elec. Eng., 2009 9th St., Des Moines, Ia.
 Drury, Lillian _____ Secretary, Chamberlain

Freeman, John ----- Died March, 1919, at Rapid City
 Gardner, Harry B. ----- Farmer, Rapid City
 Gilbert, Gladys (Ortmayer) ----- McAllister, Mont.
 Graham, William B. ----- Farmer, Freeport, Minn.
 Hale, Ruth (White) ----- Arena, Wis.
 Iverson, Carrold ---- Assoc. Prof. Dairying, State College, Ames, Iowa
 Johnson, Carl J. ----- Civil Engineer, Clear Lake
 Jones, A. Patti ----- Teacher, Whitewood
 Keck, Dallas ----- Farmer, Yankton
 Kremer, Frank ----- Lawyer, Watertown
 Lanphier, Ira ----- Civil Eng., Div. of Highways, Dixon, Ill.
 Lynch, Arthur ----- Dairyman, West Hartford, Vt.
 Nixon, Jessie ----- Instr. Home Ec., St. Paris, Ohio
 Nord, Florence, Public Health Service -----
 ----- 1431 E. Marquette Road, Chicago, Ill.
 Pilmer, Miller ----- Elec. Eng., 810 Lincoln Ave., Des Moines, Iowa
 Potter, Ernest C. ----- Minister, Athens, Pa.
 Serles, Earl ----- Prof. of Pharmacy, S. D. S. C.
 Wornson, Walter ----- Physician and Surgeon, Hartford, Wis.

PHARMACY GRADUATES

Abbott, Walter G. ----- Pharmacist, Tyndall
 Clark, Bruce E. -----
 Colliton, Ora A. ----- Pharmacist, 487 Dayton Ave., St. Paul, Minn.
 Giannonatti, Elene (Stensland) ----- Pharmacist, Ludlow
 Haugen, Martin Bernard ----- Pharmacist, Hartford
 Little, Guy Almond ----- Druggist, 900 W. 7th St., Riverside, Cal.
 Loesch, William Patrick ----- Druggist, Artesian
 Olson, Edward Furness ----- Druggist, Kingsbury, Cal.
 Randall, Harry Eugene ----- Farmer, Warren, Wy.
 Tolagson, Clarence Ferrold ----- Pharmacist, Brookings

Class of 1916

MASTER OF SCIENCE

Bolland, Jens ----- Died Nov., 1919, at Minneapolis, Minn.
 Gilbertson, Geo. L. ----- Asst. in Entomology, S. D. S. C.
 Loomis, Howard ----- Farmer, South Haven, Mich.
 Morrison, Joseph ----- State Senator and Farmer, Elbon
 Rilling, Harry M., In charge of Boys and Girls Club Work, Extension Department, Agricultural College, Fargo, N. D.
 Sherwood, Reginald ----- Assistant State Chemist, Bozeman, Mont.

BACHELOR OF SCIENCE

Abbott, Cleveland, Instr. in Dairying, Industrial and Educational -----
 ----- Institute, Topeka, Kansas

Allison, Arthur	-----	Elec. Engr., G. E. Co., Schenectady, N. Y.
Anderson, Georgia	-----	Instr. Home Economics, Harlowtown, Montana
Austin, Ethel	-----	Instr. Home Ec., State College of Industry, Denton, Texas
Avery, Blanche (Johnston)	-----	Brookings
Bergeim, Jos.	-----	Principal High School, Mandan, N. D.
Caldwell, Kate (Weber)	-----	306 Breese Terrace, Madison, Wis.
Calkins, Fred	-----	Elec. Eng., G. E. Co., Ballstrom, N. Y.
Chapman, Daphne (Serles)	-----	Brookings
Dawes, Adelia (Miller)	-----	739 Pine St., New Orleans, La.
Dott, Delia (Waters)	-----	217 N. Cliff Ave., Sioux Falls
Evers, Clarence	-----	Capt. U. S. A., Camp Lee, Va.
Fish, Warren D.	-----	Civil Eng., Good Roads Commission, Pierre
Fridley, Harry	-----	Farmer, Conde
Fryer, Julia	-----	Instr. H. E., Honolulu, Hawaii
Gold, Ralph	-----	Electrician, Big Stone
Greene, Bernice (Gardner)	-----	Rapid City
Greeves, Bertha (Rudd)	-----	Miller
Grudem, William	-----	Elec. Eng., Care G. E. Co., Schenectady, N. Y.
Hanten, Matt	-----	Farmer, Springfield, Minn.
Heiser, Marie	-----	Teacher, Frederick
Humphrey, Francis	-----	Instr. Manual Training, Meuse, North Carolina
Jerlow, Morris	-----	Instr. in Agriculture, Sisseton
Johnston, Ralph E.	-----	Agr. Extension Specialist, S. D. S. C.
Kennard, Geo. C.	-----	Co. Agr. Agent, Armour
Knutson, Robt.	-----	Instructor in Agriculture, Mandan, N. D.
Lanphier, Eva (Muessing)	-----	Welcome, Minn.
Laxson, Leroy	-----	Hardware Merchant, Ortleigh
Lynch, Edw.	-----	Dairyman, Long Beach, Cal.
Lynch, Ruth (Culhane)	-----	Brookings
Matson, Mamie	-----	English Instructor, McPherson, Kansas
Miller, Harold	-----	Medical Student, Tulane University, 739 Pine Street
	-----	New Orleans, La.
Mills, Erma Davis	-----	Werthmiller Apts., Tiffin, Ohio
Nelson, Lewis E.	-----	Medical Student, University of Minnesota
	-----	1011 6th St. S. E., Minneapolis, Minn.
Peterson, Harold	-----	Elec. Eng., G. E. Co., Schenectady, N. Y.
Rishoi, Alfred	-----	Asst. in Dairying, State College, Pullman, Wash.
Rowe, Chas.	-----	Chemist, 1114 Tribune Bldg., Chicago, Ill.
Rowe, Nellie (Warner)	-----	Instr. Home Ec., State College, Ames, Ia.
Schlatter, Chas. F.	-----	Inst. in Accounting, State University of Ill.
	-----	Champaign, Ill.
Sheehan, Bernard F.	-----	State Seed Commissioner, Boise, Idaho
Slaatta, Emma	-----	Instr. in Home Economics, Madelia, Minn.
Sloan, Janet	-----	Instr. in English, 1023 West 3rd Ave., Waterloo, Ia.
Smith, Homer	-----	Co. Agr. Agent, Rapid City

Waltner, Benj. P. ----- Instr. in Agr., Freeman College, Freeman
 Warner, Harry ----- Assistant in Soils, Iowa State College, Ames
 Weber, Geo., P. G. Student, State Uni., -----
 ----- 306 Breese Terrace, Madison, Wis.
 Wing, Leshner, ----- Elec. Eng., 1319 4th St. West, Seattle, Wash.

PHARMACY GRADUATES

Anderson, A. Edward ----- Druggist, Brookings
 Burton, Starling ----- Pharmacist, 3227 Starr St., Lincoln, Neb.
 Corkhill, Clifford ----- Medical Student, 5543 Blackstone Ave., Chicago
 Hemingway, Robt. W. ----- Med. Student, State Uni., Madison, Wis.
 Holzman, A. J. ----- Druggist, Box 8, Boulder Colo.
 Langdon, Hazel (Nelson) ----- 1011 6th St. S. E., Minneapolis, Minn.
 Lenocker, Paul -- Pharmacist, 4712 S. Van Ness Ave., Los Angeles, Cal.
 Peterson, Edw. ----- Pharmacist, LeMars, Iowa
 Rasmussen, Ethel ----- Pharmacist, Watertown
 Tabor, Floyd ----- Pharmacist, Garretson

Class of 1917

MASTER OF SCIENCE

Lynch, Arthur D. ----- Creamery Proprietor, W. Hartford, Vt.
 Serles, Earl ----- Prof. of Pharmacy, S. D. S. C.
 Whitehead, Lindsey W. ----- Instructor Civil Eng., State College, Pa.

BACHELOR OF SCIENCE

Ainsworth, Ernest C. -- With Blue Valley Creamery Co., Springfield, Ill.
 Anderson, Eldon C. ----- County Agr. Agent, Fort Pierre
 Anderson, O. Leon ----- Farmer, Rapid City
 Bennett, Lyle L. ----- P. G. Student, S. D. S. C., Brookings
 Browning, Lenore (Cummings) ----- Mandan, N. D.
 Chappell, Mabel (Safford) ----- Sioux Falls
 Cunningham, Ray C. ----- Y. M. C. A., State Uni., Minneapolis, Minn.
 Dakin, Norman ---- Butter Inspector, 312 The Bourse, Philadelphia, Pa.
 DeGreef, Chas. W. ----- Teacher, Big Stone
 Doughty, Walter E. ----- Farmer, White
 Evans, Roy L. --- Civil Eng., State Highway Com., Jefferson City, Mo.
 Furnish, Alta (Fridley) ----- Conde
 Glennon, Daniel C. ----- Agriculturist, Huron
 Gregory, Eva (Hill) ----- Alexandria
 Heiser, Elizabeth ----- Instructor English, New Rockford, N. D.
 Hill, Joe ----- Farmer, Alexandria
 Holliday, Faye E. ----- Instr. in Home Economics, Crosby, N. D.
 Jennings, Hollace H. ----- Banker, Clark
 Johnson, Ralph J. ----- Implement Dealer, Hetland
 Jones, Horace M. ----- Co. Agr. Agt., Elk Point

Karlstad, Chas. H. _____	Capt. U. S. A., Camp Lewis, Wash.
Keating, Pearl _____	Desmet
Kopperud, Harmon _____	Bank Cashier, Webster
Lanphier, Harriet _____	Instr. Home Ec., 733 High Ave., Redlands, Cal.
Langdon, Hazel (Nelson) _____	1011 6th St. S. E., Minneapolis
Lee, Vera M. _____	Instr. Home Economics, Hawarden, Iowa
McCoy, Dell H. _____	Constr. Engr., Ladish Drop Forge Co., Cudahy, Wis.
Malone, Robert S. _____	Civil Eng., C. & N. W. R. R., Huron
Miller, Henry J. Electrical Engineer, G. E. Co., 410 3d Ave. N. _____	Minneapolis, Minn.
Mills, Omer _____	County Agr. Agt., Selby
Morgan, Della _____	Science Teacher, Harris, Ia.
Nickerson, Mary S. _____	Pharmacist, R. F. D. No. 2, Portland, Ore.
Nord, Daisy (Eikum) _____	Brookings
Peterson, Axel _____	Instr. Agr., Onida
Rudd, Chas. _____	Merchant, Miller
Severson, Florence (Ashbaugh) _____	Adams, N. Y.
Shaw, Happy _____	Instr. in Home Economics, Ada, Minn.
Sherwood, Aubrey _____	Editor Kingsbury County News, Desmet
Skinner, Cecil _____	Died March 13, 1919, at Bruce
Smith, Harry A. _____	Civil Eng., State Highway Com., Brainard, Minn.
Stoddart, Mattie M. _____	Instr. Home Ec., Viborg
Swenehart, Millie (Carley) _____	R. No. 2, Cortland, Ohio
Swift, Eugene _____	Farmer, Estelline
Wagner, Colman H. _____	Farmer, Selby
Waltner, Adolph L. _____	Farmer, Freeman
Waltner, Caroline A. _____	County Superintendent, Freeman
Wattson, Donald A. _____	Merchant, Chamberlain, S. D.
Westgate, Louis A., Civil Service Commission, 64 Iglehart Ave., --	Minneapolis, Minn.
Winright, Geo. _____	County Agri. Agent, Salem
Ziegler, Arlene ---	Mgr. Tea Room, 216 6th Ave. North, Nashville, Tenn.

PHARMACY GRADUATES

Bissell, Wm. E. _____	Druggist, Plankinton
Dahl, Clarence A. _____	Pharmacist, Pierpoint
Ford, Lucile _____	Pharmacist, Watertown
Nickerson, Mary S. _____	Pharmacist, R. F. D. No. 2, Portland, Ore.
Overturf, Wm. M. _____	Pharmacist, Rapid City
Rottluff, Karl _____	Student, S. D. S. C.
Sanders, B. Harry _____	Pharmacist, Huron
Thompson, Albert M. _____	Pharmacist, Glenwood, Minn.
Walpole, Robert E. _____	Pharmacist, Springfield

Class of 1918

BACHELOR OF SCIENCE

Ahlers, Naomi (Hoover) -----	Marshall, Minn.
Berglund, Axel -----	Died Nov. 8, 1918, in France
Blakely, Clifford -----	County Agricultural Agent, White River
Boswell, Mildred (Ames) -----	Brookings
Caldwell, Jessie -----	Instructor in Home Economics, Geraldine, Mont.
Clark, Esther -----	Instr. in Home Ec., State Normal, Valley City, N. D.
Crofoot, Vanita, Instructor in Home Economics, 5411 5th Ave N. E.	
-----	Seattle Wash.
Dewing, Sara -----	Instructor in Home Economics, Grand Island, Nebr.
Dokter, Garrett -----	Farmer, Andover
Evans, Marguerite -----	Instr. H. E., 61 E. Garrison St., Bethlehem, Pa.
Frease, Hazel -----	Instr. in Home Economics, Burns, Ore.
Gilbert, Chas. J. -----	County Agricultural Agent, Faulkton
Goddard, Bertin -----	Law Student, State Uni., Vermillion
Gretschmann, Anna -----	Instr. Home Ec., State Normal, Madison
Grinols, Mavis -----	Instr. Home Economics, Lewistown, Mont.
Grinols, Violet ---	Instr. in Mathematics and Physics, Pine River, Minn.
Hanson, Hazel -----	Instructor in Mathematics, Gregory
Hewett, Howard -----	Farmer, Arlington
Holliday, Lloyd -----	Instr. in Agr. and Coach, Spring Valley, Ill.
Hoon, Glenn -----	Farmer, Cottonwood
Hoover, Harold -----	Instructor in Agr., Marshall, Minn.
Hyde, G. Hara -----	Prin. High School, Hudson
Hutchinson, Ethel (Cunningham) % Y. M. C. A. -----	
-----	612 Delaware St. S. E., Minneapolis, Minn.
Hyde, Lloyd -----	First Nat'l. Bank, 1736 Humboldt St., Denver, Colo.
Johnson, Ira -----	County Agr. Agent, Kadoka
King, Gladys -----	999 Van Slyke Ave., St. Paul, Minn.
Laird, Walter S. -----	Elec. Engr., G. E. Co., Schenectady, N. Y.
Layson, Stanley V. -----	with "Dairy Farmer," Waterloo, Ia.
Lothrop, Orlin -----	Electrical Engineer, Redfield
McFadden, Edgar -----	Seed Grower, Webster
Mills, Oscar -----	Farmer, Wall
Mueller, Arthur -----	Farmer, Madison
Pickett, H. Hubbie -----	Civil Eng., State Highway Commission, Pierre
Pier, Leonora -----	Instr. Voice, Huron College, Huron
Randall, Elizabeth -----	Instructor in Home Economics, Hood River, Ore
Reid, Phyllis -----	Instructor in Home Economics, Brookings
Revell, James -----	Died January 23, 1918, at Brookings
Rilling, Elsie -----	Instr. in Home Economics, Wimbledon, N. D.
Riis, Jens -----	Creamery Operator, Castlewood

Simons, Stella (Frimoth)	Lake Norden
Stevens, Florence	Instr. in Home Economics, Chilliwack, B. C.
Styer, Clarence	Civil Eng., 5010 Wellingford Ave., Seattle, Wash.
Tompkins, Arthur	County Agr. Agent, Hayti
Urton, J. Raymond	Farmer, Fulton
Ustrud, Ida (White)	Florence
Voss, Edward F.	Supt. City School, Doland
Webb, Grace (Notestine)	Brentford

PHARMACY GRADUATES

Bittner, Albert	Druggist, Cresbard
Nielsen, H. Arthur	Pharmacist, Rapid City
Roos, John	Druggist, Mellette
Sletten, Anthony	Died February, 1919, in U. S. Service
Trumm, Archie	Pharmacist, Hayti
Wilson, Bliss	Pharmacist, Miller

Class of 1919

MASTER OF SCIENCE

Jackson, Thomas J.	Supt. Schools, Round Lake, Minn.
Geo. C. Phillips, Registrar and Assistant Prof. Elec. Eng.	
	Died May 8, 1921, at St. Paul, Minn.

BACHELOR OF SCIENCE

Aldrich, Dorothy (Jones)	Elk Point
Atkinson, Ray	Instr. in Manual Training, Wessington Springs
Bacon, Lulu Mae	Instr. Home Economics, Miller
Batien, Anna E.	Instr. in Home Economics, Chatfield, Minn.
Bentley, Norma	Instr. English, Braidwood, Ill.
Bergeim, Frank, P. G. Student, Northwestern University	
	1048 Chicago Ave., Evanston, Ill.
Bickel, Eva	Home Demonstration Agent, Sioux Falls
Brown, Cecil L.	P. G. Student, State University, Columbia, Mo.
Browning, Albert M.	Agriculturist, Aurora
Bryant, Gladys M.	Instr. Home Economics, Bowman, N. D.
Bulger, Jacob W.	Instr. Agr., Highmore
Clark, Gladys (Cook)	Humboldt
Collinge, Verne, Instr. Agr., Northern Normal and Industrial School	
	Aberdeen
Cook, Orlan P.	Instr. Manual Training, Humboldt
Daniels, Blair (Read)	Rupert, Idaho
Drury, Joseph	Farmer, Chamberlain
Faulkner, Drew J.	Civil Eng., Dakota Eng. Co., Mitchell
Frease, Kathryn	Teacher, Heppner, Ore.
Giere, Verne Alex	Med. Student, Uni. of Minn., Minneapolis

Green, Carrol Gardner, Instr. in Geographic Science, State Normal

----- Aberdeen
 Hast, Sidonia B. ----- Instr. Home Ec., State Normal, Aberdeen
 Hogstad, Anton ----- Instr. Pharmacy, S. D. S. C.
 Hurlbert, Roy O. ----- Farmer, Raymond
 Hutton, Lynn D. ----- Field Asst., U. S. Dept. of Agr., S. D. S. C.
 Johnson, Gustaf ----- Farmer, Lake Norden
 Kirk, Louisa E. ----- Instr. Home Ec., School of Agr., S. D. S. C.
 Mathews, Hubert James ----- Magazine Illustrator, Westport, Conn.
 Millett, Helen (Evans) ----- Flandreau
 Mills, Fern ----- Principal Public Schools, Wall
 Morris, Margery M. ----- Instr. Home Economics, Hankinson, N. D.
 Morton, Joy ----- Instructor Home Economics, Yankton
 Nelson, Edmond ----- P. G. Student, Uni. of Minn., Minneapolis, Minn.
 Nickerson, Ernest ----- Principal City Schools, Edgerton, Minn.
 Oertli, Ralph ----- Instr. in Agr., Viborg
 Randall, Pearl V. ----- Instr. Home Economics, Springfield, Minn.
 Skiff, Hazel ----- Instructor English, Springfield, Minn.
 Smith, Alida ----- Instr. Home Economics, Gettysburg
 Somers, Esther Mae (Sponsler) ----- Brookings
 Spurling, Dorothy ----- Instr. Home Economics, Bonners Ferry, Idaho
 Steele, Edmund ----- Superintendent City Schools, Bryant
 White, Helen (Browne) ----- Mitchell
 White, Malcolm ----- Principal High School, Brookings
 Wiles, Glen ----- Elec. Eng., 437 Rebecca Ave., Wilkinsburg, Pa.
 Williams, Clayton, Electrical Eng., Republic Flow Meter Co., -----
 ----- 55 Conestoga Bldg., Pittsburg, Pa.
 Wood, Laura A. ----- Instr. Home Economics, Malad City, Idaho

PHARMACEUTICAL CHEMIST

Locke, C. A. ----- Druggist, Webster
 Roos, John ----- Druggist, Mellette
 Wilson, Bliss ----- Pharmacist, Miller

PHARMACY GRADUATES

Bird, Charlie L. ----- Pharmacist, Stillwater, Minn.
 Christianson, Mabel ----- Pharmacist, Sioux Falls
 Connelly, Emma ----- Pharmacist, Bottineau, N. D.
 Cornwall, Floyd ----- Pharmacist, Webster
 Elliott, Warren G. ----- Pharmacist, Aberdeen
 Fairchild, Harry N. ----- Pharmacist, Belle Fourche
 Fjerestad, Elmer O. ----- Pharmacist, Elkton
 Madsen, Mars L. ----- Med. Student, State U., Madison, Wis.
 Nielsen, Nellie Steele ----- Pharmacist, Rapid City
 Sherwood, Reginald C. ----- Asst. State Chemist, Bozeman, Mont.

Staley, Jas. M. ----- Pharmacist, Clear Lake
 Turner, Verne C. -- Pharmacist, 1764 Hennepin Ave. Minneapolis, Minn.
 Steele, Nellie Nielsen ----- Pharmacist, Rapid City
 Weber, R. B. ----- Student, College of Phar., Philadelphia, Pa.

Class of 1920

MASTER OF SCIENCE

Hoon, Glenn ----- Farmer, Kadoka

BACHELOR OF SCIENCE

Allison, Andrew M. ----- Instr. Manual Training, Brookings
 Anderson, Alvia ----- Instr. Home Ec., Wessington
 Aney, Roy ----- Instr. in Agriculture, Crosby, N. D.
 Atwater, Effie ----- Instr. Home Economics, Redfield
 Austin, Guy W. ----- Instr. in Agriculture, Wessington Springs
 Baker, Frances ----- Instr. Home Economics, Ft. Lauderdale, Fla.
 Bastian, Elias D. ----- Farmer, Redfield
 Bergstresser, Grant G. ----- Civil Engineer, Oklahoma City, Okla.
 Bucholz, Rudolph ----- Dairy Inspector, Brookings
 Buck, Ruth ----- P. G. Student, Northwestern Uni., Evanston, Ill.
 Bunday, Ray A. ----- Auto. Mechanic, Brookings
 Caldwell, Genevieve ----- Instr. Home Economics, Clear Lake
 Campbell, Dyer H. ----- Electrician, Brookings
 Chase, Elizabeth ----- Instr. Modern Languages, Flandreau
 Chappell, Genevieve ----- Instr. Home Economics, Fairfax
 Coughlin, Thos. ----- Real Estate, Carthage
 Culhane, Chas. M. ----- Instr. in Agriculture, Salem
 Dalthorp, Chas. J. ----- Athletic Director H. S., Aberdeen
 Danielson, Percy W. ----- Instr. in Agr., Ravinia, S. D.
 Day, Helen A. ----- Professor H. E., S. N., Springfield
 Dibble, Robert D. ----- Y. M. C. A., Minneapolis, Minn.
 Doolittle, Edith ----- Instr. Home Economics, Highmore
 Faulkner, Jas. D. ----- Civil Engineer, Burkmere
 Fryer, Florence E. ----- Teacher, Aberdeen
 Gaylord, Clair E., P. G. Student, 217 Waugh, State Uni., Columbia, Mo.
 Gilkerson, David L. ----- Farmer, Armour
 Graves, Chas. L. ----- Farmer, Ashton
 Halverson, Harry M. ----- Instr. in Agriculture, Plankinton
 Hansen, Eva (Gilkerson) ----- Armour
 Headley, John ----- Salesman, Brookings
 Hermanson, Peter ----- Med. Student, U. of Minn., Minneapolis, Minn.
 Hood, Kenneth L., Medical Student Western Reserve Uni. -----
 ----- Cleveland, Ohio
 Huntimer, Marie ----- Instructor Home Economics, Pierre
 Hutchinson, Florice (Bastian) ----- Redfield
 Iverson, Bernard ----- Farmer, Madison

Jackson, Clark	Student Manual Training, Menomonie, Wis.
Johnson, Clarence	Instructor in Agriculture, Watertown
Johnson, Jas. G.	Civil Eng., State Highway Commission, Pierre
Johnson, Oreat	P. G. Student, S. D. S. C.
Johnston, Helen	Instr. Home Economics, Bryant
Keck, Myrtle	Instr. Home Economics, Bonesteel
Kneebone, John H.	Farmer, Eveleth, Minn.
Ladd, Leonard	Instr. in Agriculture, Bryant
Marshman, Clinton	Civil Engineer, Brookings
Mathiesen, Homer	County Agr. Agent, Boise, Idaho
May, Gurney G.	Pharmacist, Yankton
Michaels, Ernest	P. G. Student, Uni. of Ill., Urbana, Ill.
Morrow, Madge	Instr. Home Economics, Castlewood
Munro, Carol	Instr. Home Economics, Britton
McDougal, Tyrell	Med. Student, State Uni., Madison, Wis.
Nelson, Ineta	Instr. Home Economics, Dell Rapids
Noonan, Genevieve	Instr. in English, Egan
Parish, Walter G.	Co. Agr. Agent, Clear Lake
Peterson, Ruth	Instr. in English, Flandreau
Price, Chas. R.	Pharmacist, Rapid City
Reedy, John E.	Farmer, Beresford
Reeves, Alta M.	Instr. Home Economics, Winner
Robbins, Walter F.	Farmer, Carthage
Robinson, Edna	Instr. Home Economics, Dawson, Minn.
Rohrbach, Grace	Instr. Home Economics, Elkton
Ruden, G. I.	Deputy State Supt., Pierre
Sacre, Carl A.	Instr. Agriculture, Cavalier, N. D.
Shelden, Rachel	Instr. in Home Economics, Mandan, N. D.
Shepard, Jas. H.	Chemist, Douglas, Wyo.
Sloan, Grace L.	Instr. Home Economics, Webster
Solberg, Harry	P. G. Student, Purdue Uni., Lafayette, Ind.
Stevens, Leo.	Contractor, Sioux City, Ia.
Stumley, Alfred M.	Farmer, Volga
Swift, Cecile	Instr. Home Economics, Boonfield, Neb.
Thelin, Guy	Instr. in Agronomy, Mass. Agr. College
	Amherst, Mass.
Tompkins, Blanche	Instr. Home Economics, Farmer
Trenner, Ephraim	Died Feb. 26, 1921 at Brookings
Valentine, Geo.	State Boys and Girls Club Leader, Brookings
Vera, Genaro	Agriculturist, Cochabamba, Boliva
Vollmer, Louis W.	Elec. Eng., Wilksburg, Pa.
Walseth, Edwin	Farmer, Clear Lake
Walseth, Russell	Farmer, Clear Lake

Waters, Harley N. ----- Elec. Eng., Miami, Ariz.
 Woodruff, Lewis ----- County Agr. Agent, Onida

PHARMACEUTICAL CHEMIST

Madsen, Mars L. ----- Med. Student, U. of W., Madison, Wis.
 Rottluff, Karl ----- Student, S. D. S. C.
 Weber, Robert Boyd, Student of Pharmacy, Philadelphia College --
 ----- Philadelphia, Pa.

PHARMACY GRADUATES

Greening, John J. ----- Pharmacist, Dell Rapids
 Laxson, Oliver G. ----- Student, S. D. S. C.
 Lawson, Harold A. ----- Pharmacist, Hankinson, N. D.
 Jones, Victor E. ----- Druggist, Clark
 May, Gurney G. ----- Pharmacist, Yankton
 Mallery, Esther ----- Pharmacist, DeSmet
 Nielsen, Susie ----- Pharmacist, Lead
 Pittenger, William H. ----- Pharmacist, Sioux Falls
 Pinard, Noel L. ----- Pharmacist, Wagner
 Price, Charles R. ----- Druggist, Rapid City
 Riley, Edna M. ----- Student, S. D. S. C.

Student List

The following abbreviations are used to indicate the different lines of study students are pursuing: Agr.—Agriculture; A. M.—Auto Mechanics; C. E.—Civil Engineering; Com.—Commercial; Cor.—Correspondence; Cream.—Creamery Short Course; E. E.—Electrical Engineering; Engin.—Engineering; Fresh.—Freshman; G. S.—General Science; H. E.—Home Economics; Jr.—Junior; M. E.—Mechanical Engineering; Phy.—Pharmacy; Prep.—Preparatory; Ptg.—Printing; Secy.—Secretarial; Soph.—Sophomore; Sr.—Senior.

COLLEGIATE

POST-GRADUATES

Banker, Paul B. -----	Brookings
Beard, Ward -----	Brookings
Benedict, Murray -----	Brookings
Bennett, Lyle L. -----	Canton
Gossman, S. S. -----	Brookings
Hogstad, Anton Jr. -----	Brookings
Hutton, Lynn D. -----	Brookings
Kumlien, W. F. -----	Brookings
McCall, Frank E. -----	Brookings
Rishoi, Alfred -----	Brookings

SENIORS

Anderson, Einar J. -----	G. S. -----	Brookings
Bakke, Benj. E. -----	E. E. -----	Howard
Biggar, George -----	Agr. -----	Brookings
Bruce, Marion -----	G. S. -----	Wall
Buck, Bonnie -----	H. E. -----	Bruce
Burge, Violet -----	G. S. -----	Castlewood
Burkhart, Lyle R. -----	G. S. -----	Pierre
Chase, Marcus -----	G. S. -----	Brookings
Cram, Elmer E. -----	G. S. -----	Maxbass, N. D.
Cushing, Marie -----	H. E. -----	Ramona, Cal.
Dye, Emmett C. -----	C. E. -----	Gann Valley
Emerson, William H. -----	C. E. -----	Castlewood
Erie, Frances -----	G. S. -----	Brookings
Gardner, Richard H. -----	Agr. -----	Sioux Falls
Gilbert, Paul -----	Agr. -----	Rochester, Minn.
Gilbertson, G. T. -----	Agr. -----	Brookings
Haahr, Erwin H. -----	C. E. -----	Sioux Falls
Hansen, Ross P. -----	G. S. -----	Withie, Wis.
Hobbs, Oscar -----	E. E. -----	White Lake
Huchindorf, Ina -----	H. E. -----	Brookings

Hutchinson, Hazel	H. E.	Webster
Janssen, George	Agr.	Castlewood
Johnson, Palmer	C. E.	Brookings
Knutson, Wilma	G. S.	Brookings
Kopland, David V.	Agr.	Brookings
Lippert, Lorenz C.	Agr.	Timber Lake
Merriman, Grace	H. E.	Brookings
Olson, Clarence G.	Agr.	Brookings
Paulson, Joseph	Agr.	Brandt
Paz Torrico, Marion	Agr.	Cochabba, Bolivia
Peck, Clifford	Agr.	Hazel
Pepple, Irma	G. S.	Brookings
Potter, Earl M.	E. E.	Carthage
Pratt, Pearl E.	G. S.	Aberdeen
Pultz, Ella C.	Com.	Brookings
Rottluff, Karl	Phy.	Sioux Falls
Shinn, Elvin O.	E. E.	Carthage
Sievers, George	C. E.	Wessington
Sloat, Ora	H. E.	Gettysburg
Spitzer, Lena	H. E.	Edgeley, N. D.
Street, Thomas M.	Agr.	Albee
Urton, Harold	Agr.	Fulton
Vold, George B.	G. S.	Platte
Walker, Jay F.	E. E.	Carthage
Waltz, Welcome	G. S.	Brookings
Wilensky, Abraham	C. E.	Sioux City, Iowa
Ziegler, Pearl	H. E.	Brookings

JUNIORS

Abrahamson, Ada	G. S.	Howard
Anderson, Marion L.	E. E.	Estelline
Atkinson, Ruth	G. S.	Brookings
Beals, D. L.	Agr.	Brookings
Belk, Vida M.	G. S.	Henry
Bergeson, Ragnvald	C. E.	Canton
Bjur, John Emil	E. E.	Kulm, N. D.
Brietson, Abner J.	G. S.	Brookings
Brinker, Charles	C. E.	Madison
Brown, Esther	H. E.	Brookings
Carson, Donald	Phy.	Bradley
Clark, Velda	H. E.	Wessington Springs
Cole, Dexter	G. S.	Brookings
DeBoer, Dewey	E. E.	Corsica
Erickson, Eric E.	E. E.	Trent
Evans, Mae	H. E.	Garden City

Flynn, Vincent	G. S.	Montrose
Forsee, Zeta	H. E.	Brookings
Funk, Virgil	C. E.	Lake Preston
Hansen, Philip W.	Agr.	Brookings
Hanson, Marie J.	H. E.	Brookings
Haroldson, Robert	C. E.	Brookings
Helgersen, Art	C. E.	Canton
Jarman, Ruby	H. E.	Brookings
Jones, Otho	Phy.	Frankfort
Keith, Florence	G. S.	Brookings
Knudsen, Sigurd	Phy.	Carthage
Korstad, Elvin	Com.	Brookings
Kurrasch, J.H.	C. E.	Peever
Kurtz, William A.	Agr.	Brookings
Laxson, Oliver	Phy.	Canton
Leavitt, Don	C. E.	Worthing, Minn.
Lee, Irwin W.	C. E.	Volga
Lusk, Edward F.	G. S.	Yankton
Matthews, Earl	C. E.	Alexandria
Matson, Arthur	E. E.	Brookings
Miller, Magdalene	H. E.	Hudson
Nord, Alfred E.	Agr.	Milbank
Odland, Arthur W.	G. S.	Hurley
Overseth, Oliver E.	Agr.	Canton
Peddicord, Helen	H. E.	Brookings
Provost, Beth H.	H. E.	Huron
Renwick, Margaret	G. S.	DeSmet
Riley, Edna	H. E.	Brookings
Salisbury, James A.	Agr.	Presho
Sculley, Jesse	G. S.	Brookings
Shaw, Robert	E. E.	Hazel
Silvernale, John A.	Phy.	Watertown
Smith, Byrne	Music	Brookings
Solberg, Elizabeth	G. S.	Brookings
Starbuck, Margaret	G. S.	Iowa City, Ia.
Tehon, Ollie C.	H. E.	Hamilton, Mont.
Thornber, Hubert	C. E.	Colman
Thune, Elgar	G. S.	Albert Lea, Minn.
Tommerraason, Otto	Phy.	Madison
Towers, Ralph	C. E.	Clear Lake
Tracy, James	Phy.	Webster
Underwood, Paul	Agr.	Willow Lake

SOPHOMORES

Alcott, Carroll	G. S.	Reliance
Aldrich, Merton	Agr.	Pierre

Backes, John T.	G. S.	White Lake
Backman, Aldolph W.	Agr.	Shadehill
Beatty, Audrey	H. E.	Elrod
Bemies, Carl L.	G. S.	Minneapolis, Minn.
Bennis, C. S.	G. S.	Minneapolis, Minn.
Benson, Henrietta	H. E.	Sioux Falls
Billings, Floyd	Agr.	Geddes
Blakeslee, Chas. D.	C. E.	Brookings
Blecker, Samuel	G. S.	Brookings
Brown, Elizabeth	G. S.	Brookings
Bulger, Raymond	Agr.	Brookings
Carey, Eugene	E. E.	Salem
Clement, Fritz	Phy.	Java
Corcoran, George	M. E.	Centerville
Corothers, Jean	H. E.	Clear Lake
Cram, Wilbur	G. S.	Maxbass, N. D.
Craun, Horace D.	E. E.	Brookings
Cutler, Jesse C.	E. E.	Athol
Dalthorp, Richard	C. E.	Yakima, Wash.
Davies, Ross D.	Agr.	Lead
Dempster, Wallace	Phy.	Brookings
Drayer, Phyllis	G. S.	Frankfort
Dybdahl, Clarence	Com.	Brookings
Emly, A. J.	G. S.	Brookings
Englehorn, Alfred	Agr.	Wagner
Enright, Harold	Com.	Brookings
Erickson, Vernon R.	Agr.	Beresford
Estensen, Stanley J.	G. S.	Sherman
Fenn, Benjamin	Agr.	Brookings
Forney, Fern	G. S.	Alexandria
Forney, Neva	G. S.	Alexandria
French, Dewey	Phy.	Frankfort
Fryer, Elsie	G. S.	Doland
Funk, Jack	G. S.	Fort Dodge, Ia.
Goplin, Grace	Music	Brookings
Graves, Ben	Agr.	Clark
Greening, Ernest	Phy.	Milbank
Griffith, Mibra	Agr.	Cresbard
Gullick, Kenneth	E. E.	Brookings
Halversen, Irene	H. E.	Brookings
Halversen, Mamie	H. E.	Brookings
Haugen, Berdick	C. E.	Brookings
Headley, Frank L.	E. E.	Menno
Henry, Leon R.	C. E.	Volga
Henry, Nellie	G. S.	Volga

Hinds, Sybil	G. S.	Sioux Falls
Holm, George	M. E.	Pierre
Hoon, Ruth	H. E.	Cottonwood
Hough, Inez	Phy.	Glenham
Hoy, Dale	E. E.	Brookings
Husebo, Dominicus	Phy.	Madison, Minn.
Jennings, Albert	E. E.	Sioux Falls
Jespersion, Anna	Com.	Holmquist
Johnson, Art W.	M. E.	Neenah, Wis.
Johnson, Garland	G. S.	Brookings
Kennard, Elmer	Agr.	Brookings
Lander, Francis	E. E.	Salem
Larson, Guy A.	Agr.	LaCrosse, Wis.
Leighty, Charles F.	C. E.	Brookings
Linnington, Lela	G. S.	Olivet
Lloyd, George W.	Phy.	Vayland
McCain, T. P.	Phy.	Arcola, Ill.
McCarthy, Daisy	H. E.	St. Lawrence
McGuire, Thomas I.	Phy.	Philip
McKay, John	Phy.	Pierre
McKennett, Madeline	H. E.	Webster
Madden, Natalie	Phy.	Castlewood
Martin, Lester	E. E.	Brookings
Mathews, Hermine	H. E.	Brookings
Merry, Isabel	H. E.	Dell Rapids
Michaels, Walter H.	Agr.	Watertown
Mossing, Leo K.	Agr.	St. Onge
Myron, Selina	Phy.	Vermillion
Nelson, Harold	Phy.	Tyler, Minn.
Nesseth, Agnes	H. E.	Menomonie, Wis.
Neyhart, M. W.	M. E.	Gorman
Olson, Irene	H. E.	Egan
Ondell, Vernon V.	E. E.	Conde
Orhrans, Venie	H. E.	Brookings
Orvis, Clarkson F.	Agr.	Brookings
Page, Elmer	C. E.	Dell Rapids
Peppers, Ralph	C. E.	Groton
Peterson, Harriet C.	Com.	Brookings
Prunty, Earl	G. S.	Hartford
Prunty, Glenn	Agr.	Hartford
Reed, Hazel	Music	Rapid City
Reinecke, Irene	H. E.	Beulah, Wyo.
Revell, Frank	Agr.	Brookings
Riley, Louise	G. S.	Parker
Robbins, Norma	Phy.	Redfield

Roberts, George	Com.	Villa Grove, Ill.
Rolfe, Esther	Phy.	Balaton, Minn.
Rude, Ida	G. S.	Brookings
Rude, Minnie	G. S.	Brookings
Sayre, Lawrence	G. S.	Brookings
Schooler, Harry	Agr.	Brookings
Schulz, Alvin F.	G. S.	White
Sellers, Lucile	H. E.	Mt. Vernon
Sexauer, Verna	H. E.	Brookings
Simon, Arthur F.	G. S.	Brookings
Smith, Fay	Com.	Madison
Smith, Joseph	Agr.	Sioux Falls
Sohn, Elisabeth	Music	Deadwood
Starr, Herman	Agr.	Mitchell
Staven, Julian	C. E.	Brookings
Stout, Harold J.	Phy.	Parker
Swann, Geo.	Phy.	Madison, Minn.
Thomas, Alma	G. S.	Mitchell
Thomson, Hazel	G. S.	Castlewood
Thune, Leonard	Agr.	Albert Lea, Minn.
Tompkins, Lawrence	E. E.	Brookings
Towers, John L.	C. E.	Clear Lake
Walker, Elliot G.	C. E.	Carthage
Wallis, Carroll	Agr.	Mitchell
Walseth, Clarence A.	E. E.	Clear Lake
Walter, Glenn	G. S.	Madison
Wedgewood, Jessie	H. E.	Trent
Welty, Earl	G. S.	Minneapolis, Minn.
Wilson E. E.	Agr.	Letcher
Wold, Ruby	H. E.	Brookings
Wright, Floyd	Agr.	Casper, Wyo.
Yule, Robert	C. E.	Brookings
Ziegler, Hortense	H. E.	Brookings

FRESHMEN

Aisenbrey, Huldrick	Phy.	Menno
Anderson, Esther	Secy	Brookings
Atwood, Mark	Com.	Erwin
Ayer, Dorothy	H. E.	Lead
Bakke, Alma	H. E.	Webster
Barnes, Calvin	C. E.	Iroquois
Bartelt, Bernice	Music	Brookings
Beach, Oscar M.	Phy.	Sioux Falls
Belk, Ethel	G. S.	Henry
Bennett, Carl E.	Phy.	Fairbault, Minn.
Blecker, Henry	C. E.	Brookings

Bonesteel, Frances	Secy.	Watertown
Bowers, Myron	Phy.	St. Cloud, Minn.
Brown, Harry	Agr.	Clark
Budde, Loretta	Secy.	Brookings
Buene, Ellen	G. S.	Frederick
Burnside, George H.	G. S.	Neenah, Wis.
Burton, Sibyl	H. E.	Pierre
Carlisle, Agnes	H. E.	Lake Benton, Minn.
Case, Madge	Secy.	Brookings
Cheever, Herbert E.	G. S.	Brookings
Clegg, Doris B.	H. E.	Henry
Cook, Kenneth P.	Agr.	Langford
Cram, Arthur	G. S.	Maxbass, N. D.
Craun, Violet	Phy.	Brookings
Dempster, Anna	H. E.	Brookings
DeRoos, Fred	Phy.	Avon
Dexheimer, Philip	Agr.	Spencer
Dickinson, Burton	Engin.	Mission
Dodds, Russell	G. S.	White Lake
DuBois, Gladys	Secy.	Oahe
Duffner, Florian	Phy.	Watertown
Dunlap, Dorothy	H. E.	Highmore
Dunn, Ida	Com.	Farmer
Eldredge, Zella	G. S.	Volga
Eli, Truman	Engin.	Hudson
Emmelius, Beatrice	G. S.	Iroquois
Ennis, Audrey	Phy.	Volga
Estensen, Alvin	Com.	Ada, Minn.
Fairchild, Emma	Com.	Elbon
Fairchild, Evelyn	G. S.	Bryant
Farrar, Earl L.	Com.	Britton
Forsee, Frances L.	H. E.	Brookings
Fox, Regina	Music	Brookings
Fryer, Albert	Phy.	Doland
Fryer, Nellie	G. S.	Doland
Fuller, Charles M.	Agr.	Dupree
Gamble, Addie	Music	Huron
Gannon, Earl	Agr.	Fulton
Goplin, Arthur	Phy.	Brookings
Goplin, Clara	H. E.	Brookings
Gray, Gladys	H. E.	Flandreau
Griffith, Ruth	H. E.	Cresbard
Griffiths, Winifred	H. E.	Huron
Haines, Augustus L.	Agr.	Mitchell
Haisch, Eugene	E. E.	Bonesteel

Hansen, Delmer	E. E.	Alexandria, Minn.
Hart, Marguerite	Secy.	Brookings
Hartwick, Albert L.	Agr.	Brookings
Harvey, Flora	H. E.	Pierre
Haugen, Orpha	G. S.	Brookings
Haynes, W.P.	Engin.	Albert Lea, Minn.
Heathcote, Marion	Agr.	Watertown
Herold, Roy D.	E. E.	Aberdeen
Heywood, Ruth	H. E.	Brookings
Hillestad, Harry	Secy.	Volga
Hoffbeck, Roy C.	Agr.	Big Stone City
Hovland, Iver	Engin.	Ortley
Hoy, Vere	Engin.	Brookings
Johnson, Ernest	Com.	Gayville
Jungman, Helmuth	G. S.	Menno
Justus, Gail	Phy.	Avon
Kenyon, Orville	Phy.	Gary
Killam, Dora	H. E.	Farmingdale
Kuhlman, Milton H.	G. S.	Beaver Dam, Wis.
Lampe, Mae	Secy.	Tyler, Minn.
Larson, C. Arlaine	C. E.	Lemmon
Larson, Lee G.	C. E.	Colton
Lawrence, Phoebe	Phy.	Mitchell
Lawrence, Walter	E. E.	McIntosh
LeBlanc, Floyd	Phy.	Foley, Minn.
Lee, Edward	Com.	Volga
Lee, Fenton	E. E.	Hot Springs
Lee, Maurice	Secy.	Gayville
Lerret, Anker	C. E.	Brookings
Lewis, Ralph S.	G. S.	Dallas
Lindsley, Samuel	Agr.	Tyler, Minn.
Loesch, J. Albert	Phy.	Oldham
McCarthy, Albert I.	C. E.	Cavour
McGill, Emily	H. E.	Brookings
Mann, Bernice	H. E.	Brookings
Martin, Emmett B.	G. S.	Brookings
Mathews, Zoa	H. E.	Brookings
Meade, Verne H.	Engin.	Plankinton
Mears, Kirk	Agr.	Brookings
Merriman, Charles	C. E.	Bowdle
Mitchell, Donald	Agr.	Brookings
Moberg, Lyman	Com.	Brookings
Moffatt, Paul	E. E.	Henry
Monfore, Howland	Com.	Springfield
Montgomery, Donald	C. E.	Alexandria

Montgomery, Marion	Music	Alexandria
Moore, John	G. S.	Edgeley, N. D.
Mortensen, Marie V.	G. S.	Bruce
Motley, J. Willis	Agr.	Frankfort
Muedecking, Herbert	Agr.	Tracy, Minn.
Myre, Alvilda	H. E.	DeSmet
Odland, Wilbur C.	Agr.	Hurley
Orr, Harry G.	Com.	Mott, N. D.
Owen, Seward	Phy.	Vienna
Palmer, Herald	Engin.	Brookings
Palmer, Theo	Secy.	Brookings
Parish, Nina	Com.	Esmond
Parker, Vilas William	C. E.	Hazel
Patterson, George H.	E. E.	Jasper, Minn.
Paulson, Andrew	Phy.	Castlewood
Petheram, Harold	Engin.	Wentworth
Petty, Phil	G. S.	Buffalo Gap
Phares, Guy	Engin.	Madison
Polchow, Fredrick	E. E.	Redfield
Powers, Howard	C. E.	Brookings
Revell, Lucy	H. E.	Brookings
Rice, Donald	Agr.	Brookings
Rice, Dorothy	G. S.	Brookings
Ringer, Raymond	E. E.	Brookings
Rishoi, Roy	G. S.	Brookings
Ritchey, Anna	H. E.	Huron
Robbins, Vivian	H. E.	Veblen
Robinson, Harry	Com.	Henry
Rodman, Ernest	Phy.	Hitchcock
Rogers, Garrett	Agr.	Midland
Rufer, Grace	Phy.	Bruce
Samuel, Cecil	M. E.	Pierre
Sasse, Treva	H. E.	Henry
Schaller, Joseph	Phy.	Raymond
Schanck, Nellie	Music	Bryant
Scott, Ernest	Engin.	Brookings
Settle, Stella	Music	Meadow
Sharp, Josephine	G. S.	Bristol
Shawhan, Ralph	C. E.	Watertown
Shelton, Cleo	H. E.	Dupree
Sievers, Draper	Agr.	Wessington
Simon, Clarence	G. S.	Princeton, Ill.
Simonson, Herbert	G. S.	Brookings
Smiley, Marjorie L.	G. S.	Alexandria
Smiley, Stuart	C. E.	Alexandria

Smith, Gertrude	Secy.	Tyler, Minn.
Smith, Ralph	Secy.	Willow Lake
Snyder, Francis A.	E. E.	Estelline
Solberg, Ruby	G. S.	Brookings
Sorenson, James R.	C. E.	Springfield
Street, Orman	Agr.	Revillo
Sueltz, Arthur	Agr.	Groton
Sullivan, Frederic	C. E.	Florence
Swearingen, Myrtle	G. S.	Houghton
Thelin, Milo	C. E.	Sioux Falls
Thomas, Ethel	H. E.	Lead
Thompson, Geo. E.	Engin.	Ft. Dodge, Ia.
Thompson, Ruth May	G. S.	Castlewood
Tompkins, Melba	Com.	Egan
Torwick, Edward	G. S.	Volga
Towers, Stanley	C. E.	Clear Lake
Tripp, Ted	Agr.	White Lake
Tyrell, Verne	Engin.	Bancroft
Van Gordon, Merl	Com.	Alma Center, Wis.
Vessey, Joy	H. E.	Brookings
Voigt, Russell	G. S.	Albert Lea, Minn.
Wager, Harold	A. M.	Gettysburg
Weaver, Alyce	G. S.	Brookings
White, Frank	G. S.	Wessington Springs
Whitehead, Donald	G. S.	Brookings
Widdis, Murray Jr.	Phy.	Aberdeen
Willadsen, Clair H.	Agr.	Albert Lea, Minn.
Wilson, Bernice	Phy.	Doland
Worden, Viola	Secy.	Brookings
Yule, Marian	H. E.	Brookings

UNCLASSIFIED

Ahre, Theo. G.	Brookings
Allison, Andrew	Brookings
Ayer, Horace M.	Brookings
Bairey, Esther	Brookings
Banker, Mrs. Paul	Brookings
Barber, Mrs. Jessie B.	Brookings
Bernett, Alta	White
Binnewies, Mrs. E. R.	Brookings
Cach, Anna	Scotland
Carlisle, Marion	Brookings
Clark, Mrs. E. C.	Brookings
Cole, Olive	Brookings

Coulson, A. A.	Volga
Curry, William J.	Elk Point
Enghagen, Inez	Brookings
Faulken, C. W.	Bruce
Foley, Mrs. James	Brookings
Ford, Mrs. A. L.	Brookings
Fossbakken, Mollie	Brookings
Frey, Robert W.	Los Angeles, Cal.
Fulweiler, Mrs. H. W.	Brookings
Gilbert, H. C.	Brookings
Gillbride, Marguerite	Brookings
Greguson, Helmer	Canton
Griswold, Marjorie	Brookings
Hahn, Bernice	Sioux Falls
Harding, Mrs. E. B.	Brookings
Himes, Ellsworth	Oacoma
Hogstad, Mrs. Ebba	Brookings
Hoyt, Mrs. Esther	Brookings
Hynding, Sine	Brookings
Johnson, Esther	Sinai
Johnson, Oreat	Brookings
Kieser, Mrs. Paul W.	Brookings
Knight, Rachel	Philadelphia, Pa.
Knutson, Hilda	Brookings
Kumlien, Mrs. W. F.	Brookings
Ladd, Jim	Brookings
Lawson, Mrs. Beatrice	Caspian, Mich.
McMillan, Mrs. A. A.	Brookings
Mathews, Mrs. Eva E.	Brookings
Moritz, Flora	Jefferson, Ore.
Olmstead, Gladys	Brookings
Patty, Mrs. Gertrude J.	Brookings
Pedersen, Mrs. Theodor	Aurora
Petry, Mrs. Doris P.	Brookings
Prather, Mrs. E. O.	Brookings
Prosser, Marcia	Iowa City, Ia.
Rudd, Mae Mary	Miller
Schooler, Mrs. Theresa	Brookings
Severin, Mrs. Lois A.	Brookings
Severson, Edwin G.	Humboldt
Sherwood, Carlton	Brookings
Shoen, Mrs. Olive	Brookings
Smith, Mrs. C. W.	Brookings
Snader, Mrs. D. L.	Brookings
Tidball, Mrs. Florence M.	Brookings

Tozer, Mrs. Mattie	Brookings
Walker, John	Brookings
Watson, Edna	Brookings
Weaver, Mrs. Jessie G.	Brookings
Whitehead, Ruth	Brookings
Willey, Mrs. Eva	Brookings
Wing, Mrs. E. A.	Brookings

PREPARATORY

FOURTH YEAR

Anderson, Blanche	Estelline
Deady, Carl L.	Faulkton
Hanson, Delia	Seneca
Hoyt, Myron	Brookings
Hutton, Helma L.	Brookings
King, Nellie	Wilmot
Millard, William D.	Clark
Moore, Alice	Denver, Colo.
Slocum, Harold	Brookings
Stitt, Lyle	Hitchcock
Svoboda, Charles	Cicero, Ill.
Welch, Darrell	Hurley
Wilson, William	Brookings
Winter, Lowell H.	Aberdeen

THIRD YEAR

Anderson, George	Midland
Berry, Clarence W.	Sioux Falls
Bruce, Helen	Wall
Brumwell, Roy	Huron
Burgess, Edward A.	Badger
Dougherty, Reginald	Webster
Feind, Ernest	Hazel
Franzke, Clifford	Pukwana
Hoy, Marguerite	Brookings
Kjenslee, Lloyd	Brookings
Lawson, James	Reliance
Lewis, Alfred L.	Arlington
Lindland, Lloyd	Brandt
Lindquist Elmer	Webster
Norman, Rose	Brookings
Puhr, Leo	Brookings
Renshaw, Charles F.	Armour
Sheppard, Don	Brookings

Sheppard, Forrest	Brookings
Slattery, William	Belle Fourche
Watkins, Vernon L.	Sturgis
Woodbury, Bruce	Gary

SECOND YEAR

Amundson, Serene	Chatfield, Minn.
Anderson, Lawrence A.	Aberdeen
Buehre, Barry G.	Brookings
Christensen, Arne	Brookings
Ferguson, Daniel G.	Wetonka
Haugen, Sigurd	Redfield
Hetland, John	Montrose
Hoover, Lloyd	Roundup, Mont.
Houghton, Percy	Brookings
Kirbye, Cecil	Smithwick
Kugler, Wm.	Lidgerwood, N. D.
Kurtz, Theo	Brookings
Lee, R. E.	Wentworth
Longwood, Walter D.	Cole
Longwood, William D.	Cole
Smith, Lewis R.	Miller
Solberg, Clarence	Brookings
Steile, Carl	Hilland

FIRST YEAR

Bennett, Charles	Aurora
Billman, Albert	Tripp
Buene, Clara	Frederick
Burr, Mildred	Brookings
Dalzell, John	Dalzell
Dubois, Loren	Hitchcock
Fraley, Earl	Volga
Heinzen, Harry	Rockham
Kingman, Charles	Brookings
Kopland, Ilo	Brookings
Stewart, Earl J.	Wentworth
Wharton, Glenn R.	St. Lawrence
Whitney, Clarence	Brookings
Woods, Leonard	Wanblee

SCHOOL OF AGRICULTURE

FOURTH YEAR

Austin, William	Hetland
Bentley, Helen	Bryant

Bickell, Wm. E.	Elrod
Brock, Glenn	Broadland
Brown, Lawrence	Yankton
Christianson, Esther	Jasper, Minn.
De Witte, Ellsworth	Highmore
Doner, Harold H.	Gorman
Erickson, Harold E.	Salem
Gauger, John F.	Clear Lake
Green, Max E.	Hazel
Hagmann, Merle	Ashton
Hedeen, Clifford H.	Beresford
Hetland, Conrad	Montrose
Hoime, Neva H.	Sherman
Jensen, Olga R.	Renner
Johnson, Esther M.	Lowry
Johnson, A. Wilfred	Volga
Millard, Wm. Dyce	Clark
Miller, Frank	Hecla
Moen, Morris E.	New Effington
Nelson, Martha	Dell Rapids
Pierce, Frank H.	Leola
Rodway, Christian	Hudson
Rohrbach, Glenn	Brookings
Sloat, Fred E.	Gettysburg
Sloat, L. May	Gettysburg
Spicer, Clarence C.	Wessington
Sundet, Philip H.	Brookings
Ufford, Frank S.	Vermillion
Wynn, Phillip H.	Waukegan, Ill.

THIRD YEAR

Bell, Walter C.	Brookings
Bezner, Edna G.	Highmore
Brown, Maybel E.	Yankton
Bult, Samuel	Harrison
Butterfield, Ernest B.	Wessington Springs
Chester, Otto	Bruce
Christianson, Wm. F.	Veblen
Duff, Edna M.	Brookings
Eidem, Samuel	Elk Point
Erickson, Clarence	Montrose
Falkenhagen, Floyd	Agar
Fuller, Howard	Naples
Gigg, Frank M.	McClure
Green, George C.	Hazel

Granner, Gertrude J. -----	Estelline
Gunderson, Rosella E. -----	Brookings
Hanson, Arthur H. -----	Elk Point
Hanson, Edwin -----	Vermillion
Hast, Donald -----	Bruce
Heeren, Alvin B. -----	Dell Rapids
Heeren, Calvin E. -----	Dell Rapids
Hoyme, Rosella E. -----	Sherman
Jahnig, Arthur -----	Britton
Knickrehm, Arthur H. -----	Hitchcock
Linn, W. Day -----	Rockham
Lucke, Glenn G. -----	Doland
Lund, Raymond F. -----	Wessington
Merry, Robert -----	Dell Rapids
Millard, Arthur F. -----	Yankton
Nordmark, Ralph -----	Platte
Piper, Olie S. -----	Carpenter
Reinecke, Emerald H. -----	Beulah, Wyo.
Ring, Gladys M. -----	Henry
Schreiber, Arnold F. -----	Agar
Schwartz, Hilbert F. -----	Canton
Scott, Maurice -----	Bruce
Sellers, Mary -----	Mt. Vernon
Stearns, George E. -----	Canton
Trotter, Joe -----	Provo
Wieting, George -----	Hitchcock

SECOND YEAR

Anderson, Reuben W. -----	Montrose
Barber, Claude -----	Newell
Barber, E. Ward -----	Agar
Barber, Paul B. -----	Brookings
Baxter, Eva B. -----	Hazel
Baxter, Everett -----	Hazel
Baxter, Oliver -----	Hazel
Beatty, Wallace -----	Elrod
Bever, Neil -----	Agar
Bisgard, Harvey C. -----	Waubay
Blair, Terrace Wm. -----	Tilford
Boice, Evelyn E. -----	South Shore
Briscoe, Harold -----	Gorman
Bue, Oscar -----	Grenville
Burbidge, Robert -----	Hazel
Burke, Francis -----	Faulkton
Bury, Florence -----	Holmquist

Butterfield, Pearl	Wessington Springs
Cooper, Charles	Doland
Cowan, Joseph J.	Webster
Crisman, Owen	Armour
Crogstad, Leonard	Alcester
Cumming, Wm. Ross	Broadland
Dodds, Russell	Britton
Doner, Howard M.	Gorman
Doud, Ralph E.	Midland
Duff, Orville	Brookings
Eggert, Wm. J.	Rockham
Erdman, Wayne	Corsica
Fairchild, Jasper S.	Elbon
Forby, George A.	Onaka
Forby, James H.	Onaka
Fred, Henry	Canova
Fred, Violet	Canova
Fuller, Mark A.	Naples
Glanzer, David D.	Dolton
Gredvig, Walter	Bruce
Grieve, Lawrence	Wessington Springs
Gunderson, Alfred	Brookings
Hague, John	Highmore
Hansen, Ernest M.	Beresford
Hollister, Arthur	Sherman
Hustoft, George	Dell Rapids
Iverson, Milton M.	Worthing
Johnson, Peter W.	Grenville
Kaufman, Albert T.	Marion Junction
Kirbye, Cecil	Oral
Knuppe, William	Farmingdale
Lievan, Wayne M.	Brookings
Linn, Glenn W.	Rockham
Lippman, Harold	Lemmon
Longman, Mabel	Brookings
Lundin, Emma I.	Springfield
Madsen, Niels C. A.	Raymond
Manfull, Harry A.	Gettysburg
Marvin, Lucile E.	Brookings
Monson, Wilhelm J.	Reliance
Mulder, Egge	Altamont
Munger, Arthur F.	Chamberlain
Parshall, Chas. J.	Colome
Pastian, Albert G.	Herrick
Peregrine, Ervin L.	Mud Butte

Peterson, Peter Jr.	Lily
Pond, Paul A.	Hill City
Rand, John B.	Jeffers, Minn.
Reynolds, Margaret H.	Bancroft
Roush, Joe R.	Draper
Schmidt, Herman	Alpena
Schulz, Agnes	Wessington Springs
Sloat, Phebe E.	Gettysburg
Smith, Bert	Brookings
Spicer, Cecil R.	Wessington
Stee, Geo. P.	Florence
Steingrube, Henry	Volin
Steinhauser, Harold A.	Hitchcock
Stitt, Rhea	Hitchcock
Talsma, Martha	Springfield
Tate, Philip E.	Worthing
Teaney, Thos. T.	Midland
Thompson, Cora B.	Wessington Springs
Walter, Elias P.	Carpenter
Welch, Joe L.	Parkston
Wells, Lawrence E.	Harrold
Wells, Lewis G.	Harrold
Willi, Herbie G.	Detroit, Mich.

FIRST YEAR

Anderson, Oscar D.	Summit
Andresen, Andrew	Mound City
Bauer, George H.	Lake City
Bawdon, Robert F.	Ree Heights
Belau, J. William	Miranda
Belden, Lena H.	Andover
Benton, Alfred	Pierre
Bergeson, John	Sansarc
Bergland, Peter C.	Gettysburg
Bischoff, Ralph H.	Huron
Brant, Charles L.	Sioux Falls
Brown, Mason	Platte
Brue, James	Centerville
Buus, Christena M.	Wagner
Byrum, Chas. E.	Onida
Cable, Frank B.	Hudson
Christensen, Elvina	Arlington
Clipper, Lyle H.	Lake Benton
Connors, Wm. A.	Jefferson
Cooper, George R.	Doland

Cornelius, Henry	Canton
Crane, Lyle L.	Oacoma
Crisman, Calvin G.	Armour
Crisman, Hazel I.	Armour
Cundy, Henry	Beulah, Wyo.
Dahlin, Alfred G.	Sisseton
Daugaard, Clara F. M.	Dell Rapids
DeGraff, Andrew	Bushnell
DeJong, Wm. A.	Utica
Dunlap, Keith G.	Lemmon
Duryee, Elvie M.	Webster
Edwards, Evan	Fairburn
Erdmann, William	Webster
Evans, Morris	Houghton
Foley, Peter Francis	Crocker
Fox, Theodore R.	Brookings
Freitag, Willie	Hitchcock
Friis, Arthur	Tyler, Minn.
Furr, Etta A.	White
Gall, Arthur	Rapid City
Gapen, Paul Elbert	White River
Gillette, Francis E.	Nisland
Griepp, Rudolph G.	Glad Valley
Griffin, Albert D.	Plankinton
Hall, Lloyd	Reliance
Hamlin, Wallace	Holabird
Hansen, Alice M.	Freeman
Hansen, Jorgen	Scobey, Mont.
Hansen, Mirtie A.	Freeman
Hansen, Otto H.	Scotland
Harris, Richard H.	Winfred
Haugen, Sigurd G.	Redfield
Hejna, Emma	Janousek
Hesby, Edwin L.	Arlington
Houseman, Ward E.	Wessington Springs
Howard, Orin	Bend
Jensen, Alvin E.	Viborg
Jensen, Gladys A.	Viborg
Jepperson, Frances	Waubay
Johnson, Addie S.	Grenville
Johnson, Carl M.	Renner
Killam, Arthur	Farmingdale
Kopland, Ilo	Brookings
Lindquist, Elmer H.	Webster
Lothrop, Grover	Aberdeen

Ludwig, Coryden	Onida
Lunden, Alvin C.	Brookings
Lynn, Kenneth	Canova
McGuane, Michael	Letcher
MaComb, Florence	Brookings
MaComb, Helen	Brookings
Manfull, Frank L.	Gettysburg
Moe, Albert O.	Sioux Falls
Moen, Alvin R.	New Effington
Monson, Albert	Reliance
Morgan, Edward A.	Kimball
Munger, Harlo A.	Canistota
Musilek, Henry	Lake Andes
Myers, Loyd A.	Salem
Nelson, Bennie T.	Dell Rapids
Noble, Dick P.	Java
Nord, John A.	Milbank
O'Farrell, Alvin	Marvin
Olson, Clifford	Sisseton
Painter, Chas. M.	Colome
Pedersen, Theodor	Aurora
Peterson, Leonard F.	Arnott
Quam, Paul	Elk Point
Rawstern, Wilbur	Rockham
Rieger, John	Gettysburg
Ree, Ed. J.	Wososo
Renshaw, Howard	Armour
Rezac, Anna M.	Tabor
Richard, Homer E.	Hitchcock
Rilling, Agnes	Agar
Ring, Eugene	Henry
Ronell, Clarence W.	Burbank
Salzer, Fred	Herreid
Sanders, Ernest	Holabird
Savage, Iral I.	Luverne, Minn.
Scherber, Frank A.	Waubay
Schlim, Joe F.	Howard
Schlueter, Walter	Canistota
Schmidt, Daniel	Alpena
Schoepp, Helen	Henry
Schrag, Rudolph	Freeman
Sears, John H.	Kadoka
Sheldon, Claude	Hitchcock
Smith, Mark	Northville
Steingrube, Herbert H.	Volin

Steinlicht, Rudolph	Milbank
Stoll, Willard E.	Huron
Stolte, Arthur E.	Pukwana
Stoppelmoor, Otto E.	Highmore
Sueltz, Alfred	Groton
Swenson, Andrew	DeSmet
Taft, Chas. C.	Chamberlain
Teaney, C. C.	Midland
Thomas, Wm. C.	Springfield
Thoreson, Olaf	Brandon
Ufford, Fred W.	Vermillion
Vanderplaats, Andrew	Fort Bennett
Vojta, John	Mound City
Vojta, Joseph	Mound City
Waddell, Chas. M.	Garden City
Waddell, Katie	Garden City
Walgamuth, Claude	Faulkton
Warns, Walter H.	Wentworth
Weeks, Arthur C.	Alexandria
Weir, Rodney P.	Witten
Welch, John Clifford	Parkston
Wimer, Harry	Frankfort
Winters, Chris L.	Midland
Woods, Leonard	Wanblee
Zacek, Joseph O.	Brookings

VOCATIONAL

Adams, Robert A.	A. M.	Garden City
Akkerman, Dick	A. M.	White
Andersen, Laurence A.	Prep.	Aberdeen
Anderson, Oscar	A. M.	Summit
Aronson, Carl V.	A. M.	Stockholm
Barber, Claude E.	Agr.	Newell
Barber, Paul B.	Agr.	Brookings
Barningham, Clinton	Cor.	Wimbledon, N. D.
Batinovich, Jerry	A. M.	Lead
Bauer, George	Agr.	Lake City
Beckley, Leonard R.	Agr.	Beagle, Kans.
Beighlie, Harry	A. M.	Rockham
Bennett, Guy	Agr.	Arlington
Benson, Elmer	Agr.	Vermillion
Benton, Alfred	Agr.	Pierre
Bergeson, John	Agr.	Sansarc
Berry, Clarence W.	Engin.	Sioux Falls

Blair, Terrace W.	Agr.	Tilford
Borstad, John	A. M.	Bruce
Brant, Charles	Agr.	Sioux Falls
Buehre, Barry C.	Prep.	Brookings
Burgess, Edward A.	Prep.	Badger
Byrne, John F.	A. M.	Red Lodge, Mont.
Carlson, Simon E.	A. M.	Conde
Chiefeagle, Albert M.	A. M.	Oglala
Comstock, Earl N.	Cor.	Miles City, Mont.
Cornelius, Henry	Agr.	Canton
Cullen, James J.	Cor.	Reliance
Curry, William J.	Agr.	Elk Point
Dahlin, Alfred G.	Agr.	Sisseton
DeGraff, Andrew	A. M.	Bushnell
Dempsey, Dewey M.	A. M.	Galena
Dougherty, Reginald	Prep.	Webster
Doyle, Thomas M.	Agr.	Colman
Ebert, Oscar	A. M.	Aberdeen
Edwards, Evan	Agr.	Fairburn
Evans, Morris	Agr.	Houghton
Fallon, Clarence	A. M.	Slayton, Minn.
Farrar, Earl L.	Fresh.	Britton
Foley, Peter F.	Agr.	Crocker
Franzke, Clifford	Prep.	Pukwana
Friis, Arthur	Agr.	Tyler, Minn.
Gall, Arthur	Agr.	Rapid City
Gamble, Harvey D.	A. M.	Brookings
Gapen, Paul E.	Agr.	White River
Gilbert, Paul	Sr.	Rochester, Minn.
Gordon, Charles S.	Cor.	Forbes, N. D.
Greguson, Helmer	Agr.	Canton
Griep, Rudolph G.	Agr.	Glad Valley
Groves, Armour	A. M.	Tripp
Gustafson, Kenneth E.	Agr.	Onida
Hafstad, Luther	Ptg.	New Effington
Hansen, Jorgen	Agr.	Scobey, Mont.
Hanson, Martin	Cor.	Fargo, N. D.
Hawkinson, Christ O.	Agr.	Boyd, Minn.
Hedemark, Peter F.	A. M.	Utica
Himes, Ellsworth	Phy.	Oacoma
Holgrimson, John	Agr.	Presho
Holm, George A.	Soph.	Pierre
Hopkins, Wm. C.	A. M.	Brookings
Hoyt, Myron A.	Prep.	Brookings
Janousek, Charles	Agr.	Hamill

Jelle, Richard M.	A. M.	Garretson
Jennings Albert M.	Soph.	Sioux Falls
Jepperson, Carl	A. M.	Waubay
Johnson, Art W.	Soph.	Neenah, Wis.
Johnson, Herbert W.	Cream.	Stockholm
Johnson, Joseph	A. M.	Dewey
Kemink, William	A. M.	Castlewood
Kennard, Elmer D.	Soph.	Brookings
Kenney, Wm. C.	A. M.	Aberdeen
Lavin, Thomas H.	Agr.	Brookings
Lawson, James	Prep.	Reliance
Lerret, Anker	Fresh.	Brookings
Lindquist, Elmer	Prep.	Webster
Lister, James I.	A. M.	Watertown
Lothrop, Grover	Agr.	Aberdeen
McCarty, Albert I.	Fresh.	Cavour
McGuane Michael	Agr.	Letcher
McHenry, Beth C.	A. M.	Gillette, Wyo.
McLean, Duncan	Cor.	Westhope, N. D.
Mackay, Alexander C.	Agr.	Sioux Falls
Madsen, Niels C.	Agr.	Raymond
Maxvold, Edwin C.	A. M.	De Smet
Moe, Albert O.	Agr.	Sioux Falls
Monfore, Howland S.	Fresh.	Springfield
Morgan, Edward A.	Agr.	Kimball
Mortenson, Harold	A. M.	Bruce
Murray, Kenneth E.	A. M.	Wetonka
Musilek, Henry	Agr.	Lake Andes
Nelson, Clynard E.	A. M.	Viborg
Nevala, William	Agr.	Buffalo
Ogaard, Olaf C.	A. M.	Waubay
Orvis, Clarkson F.	Soph.	Brookings
Pastian, Albert G.	Agr.	Herrick
Pedersen, Theodor	Agr.	Aurora
Perlenfein, Gustave	A. M.	Bonesteel
Peterson, Leonard F.	Agr.	Arnott
Phillips, Herbert	Cor.	Vetal
Pratt, Charles A.	A. M.	Great Falls, Mont.
Prentice, Ernest H.	A. M.	Brookings
Prunty, Glenn G.	Soph.	Hartford
Rand, John E.	Agr.	Jeffers, Minn.
Rasmussen, Axel H.	Agr.	Wasta
Ree, Ed. J.	Agr.	Wososo
Renshaw, Charles	Prep.	Armour
Richey, Glenn P.	A. M.	Newell

Rieger, John	A. M.	Gettysburg
Roso, Elias M.	Agr.	Bradley
Roush, Joe R.	Agr.	Draper
Sager, Charles E.	A. M.	Custer
Salzer, Fred	Agr.	Herreid
Scherber, Frank A.	Agr.	Waubay
Schlim, Joe F.	Agr.	Howard
Schmidt, Christian	A. M.	Isabel
Schmidt, Oscar	Cor.	Fallon, Mont.
Schooler, Harry M.	Soph.	Brookings
Severson, Edwin G.	Engin.	Humboldt
Skretting, Anders	Agr.	Clarkfield
Slattery, William H.	Prep.	Belle Fourche
Smith, Harry J.	A. M.	Faulkton
Snoek, Budd	Agr.	Brookings
Steinlicht, Rudolph M.	Agr.	Milbank
Stoll, Willard E.	Agr.	Huron
Stoppelmoor, Otto E.	Agr.	Highmore
Strobele, John	A. M.	Ipswich
Sullivan, Frederic	Fresh.	Florence
Sutton, Jacob S.	A. M.	Centerville
Swenson Andrew	Agr.	De Smet
Thompson, Everett	A. M.	Brookings
Thompson, William	A. M.	Fort Pierre
Thoreson, Olaf	Agr.	Brandon
Trager, John H.	A. M.	Keldron
Vanderplaats, Andrew	Agr.	Fort Bennett
Walters, Raymond	Agr.	Woonsocket
Weir, Rodney P.	Agr.	Witten
Wilson, Edwin E.	Soph.	Letcher
Young, Ben H.	Agr.	Fort Pierre
Zacek, Joseph	Agr.	Brookings
Zeller, George	A. M.	Waubay

TRACTOR AND AUTO MECHANICS

Adams, Robert A.	Garden City
Akkerman, Dick	White
Anderson, Arthur	Baltic
Anderson, Oscar	Summit
Aronson, Carl V.	Stockholm
Aslakson, Omer	Brookings
Batinovitch, Jerry	Lead
Beighlie, Harry	Rockham
Berndt, Herbert E.	Avon

Borstad, John	Bruce
Bury, Perry	Holmquist
Byrne, John F.	Red Lodge, Mont.
Carlson, Simon E.	Conde
Carter, Fritz	Carthage
Chiefeagle, Albert M.	Oglala
Connell, Wilbur L.	Hot Springs
DeGraff, Andrew	Bushnell
DeHaven, Charles	Canton
Dempsey, Dewey M.	Galena
De Vries, Henry	Hitchcock
Ebert, Oscar	Aberdeen
Fallon, Clarence	Slayton, Minn.
Fjelland, Theo. A.	Clark
Gamble, Dale H.	Brookings
Groves, Armour	Tripp
Hanson, Homer	Centerville
Hartwick, A. M.	Brookings
Hedemark, Peter	Utica
Hinkle, Emory	Brookings
Hopkins, Wm. C.	Brookings
Housner, Leonard Lloyd	Wessington Springs
Jelle, Richard M.	Garretson
Jepperson, Carl C.	Waubay
Johnson, Joseph	Dewey
Kemink, William	Castlewood
Kenney, W. C.	Pierre
Koerper, Harold	Brookings
Korzan, Oliver	Kimball
Lister, James I.	Watertown
Locken, George	Aberdeen
Longman, Roy	Brookings
McCowan, Robert D.	Wayside, Neb.
McHenry, Beth C.	Gillette, Wyo.
Maxvold, Edwin G.	De Smet
Mechtenberg, J. F.	Dimock
Memmer, Ralph	Avon
Myers, Eugene	Avon
Milashus, Vincent	Mt. Vernon
Moe, William	Bruce
Moore, Le Roy	Webster
Mortensen, Harold	Bruce
Murray, Kenneth E.	Wetonka
Nelson, Clynard E.	Viborg
Nesheim, Brynjulf	Willow Lake

Ogaard, Olaf C.	Waubay
Palmer, Richard	Grindstone
Pease, Lester	Brookings
Perlenfein, Gustave	Bonesteel
Pratt, Charles A.	Great Falls, Mont.
Prentice, Ernest H.	Brookings
Prindle, Earl W.	Athol
Reuter, Carl W.	Humboldt
Richey, Glenn	Newell
Rieger, John	Gettysburg
Roda, Crystal	De Gray
Sager, Charles	Custer
Saunders, Earl	Stratford
Schmidt, Christian S.	Isabel
Scott, Harris	Provo
Smith, Harry J.	Faulkton
Somarindyck, F. E.	Hot Springs
Sonnenschein, Wallace	Lindsay
Starr, Herbert J.	Mitchell
Strobele, John M.	Ipswich
Sutton, Jacob	Centerville
Thompson, Everett	Brookings
Thompson, William	Fort Pierre
Trager, John H.	Keldron
Trevithick, Lester	Willow Lake
Vik, Adolph	Draper
Wilson, Don	Brookings
Zeller, George	Waubay

CREAMERY SHORT COURSE

Barnes, A. J.	Castlewood
Dunn, E. M.	Miller
Johnson, Herbert W.	Stockholm
Kalal, Frank	Burke
Landon, Earl	Brookings
Payne, Floyd E.	Presho
Setering, Oscar	Hendricks, Minn.
Valentine, Foster	White
Walker, A. J.	Buffalo

PRINTING

Bailey, Lewis W.	Mitchell
Hafstad, Luther T.	New Effington
Johnson, Mabel	Wakonda

Moore, Paul A. -----	Cresbard
Moose, Hazel -----	Fort Dodge, Ia.
Rohrbach, Glenn -----	Brookings
Stepanek, Joseph E. -----	Kimball

SUMMER SESSION

1920

Allison, Andrew -----	Brookings
Allison, Winifred -----	Brookings
Austin, Guy W. -----	Brookings
Barber, Paul B. -----	Brookings
Beatty, Harold -----	Brookings
Bedessen, Florence -----	Brookings
Blair, Terrace -----	Tilford
Blecker, Samuel P. -----	Brookings
Brooks, Agnes C. -----	Lake Preston
Brown, Elizabeth -----	Brookings
Bryan, Dorothea -----	Kadoka
Burkhart, Lyle -----	Pierre
Burr, W. H. -----	Maryville, Mo.
Byrnes, Gertrude -----	Aurora
Campbell, Dyer H. -----	Brookings
Carlisle, Martin -----	Brookings
Chase, Elizabeth -----	Brookings
Christenson, Salo -----	Tracy, Minn.
Cook, Orlan P. -----	Humboldt
Coulson, A. A. -----	Volga
Cram, Elmer E. -----	Maxbass, N. D.
Crosby, Gladys -----	Brookings
Culhane, Charles M. -----	Brookings
Cushing, Marie A. -----	Ramona, Cal.
Dahlthrop, Mabel -----	Tracy, Minn.
Davison, Lovia -----	Ortonville, Minn.
Dawes, Rachel E. -----	Brookings
Deady, Carl -----	Faulton
Delker, S. F. -----	Oldham
Dennison, Nellie -----	White
Donaldson, Ruth -----	Plainview
Doner, David B. -----	Brookings
Donnelly, Leonard J. -----	Tracy, Minn.
Driver, Marion -----	De Smet
Dybdahl, Irwin -----	Brookings
Dybdahl, Lillian -----	Brookings
Eidsness, Agnes -----	Hazel

Elfring, Katherine	Watertown
Ensteness, Julia	Brookings
Errington, Paul	Brookings
Evans, Morris	Houghton
Franzke, Clifford	Pukwana
Fulweiler, H. W.	Brookings
Fulweiler, Mary	Brookings
Gilbert, Paul	Rochester, Minn.
Glaesemann, Wesley	Brookings
Glynn, Hannah	Tracy, Minn.
Graber, Edwin J.	Freeman
Green, Julia	Mitchell
Green, Vera	Mitchell
Greenly, Alda	Brookings
Hall, Mary B.	Wendte
Hallaner, Charlotte	Grover
Hamen, Dora	Manchester
Hansen, Jorgen	Scobey, Mont.
Hanson, Hazel M.	Brookings
Harding, Robert	Brookings
Hartwick, Albert	Brookings
Hayes, Constance	Elkton
Hefferman, Rose	Elkton
Heitland, Freda	Brookings
Hendrickson, Marie	Lake Preston
Hendrickson, Martha	Lake Preston
Hoch, Regina	Elkton
Holgrimson, John	Presho
Hoyt, Myron A.	Rapid City
Hutton, Helma	Brookings
Hyde, Elsie	Brookings
Janousek, Charlie J.	Hamill
Johnson, Aylesworth	Brookings
Johnson, Clarence E.	Brookings
Johnson, Garland	Brookings
Johnson, Oreat N. R.	Brookings
Johnson, Violet	Flandreau
King, Ione	Watertown
Knutson, Wilma	Brookings
Kopland, Lucile	Brookings
Kopland, Ilo	Brookings
Ladd, Leonard L.	Brookings
Leberknight, Esther	Brookings
Leighty, Wm. P.	Brookings
Lerret, Anker	Brookings

Lewis, Winnie	Arlington
Lien, Jeannette	Brookings
Lien, Ruth	Brookings
Loeb, Helen M.	Gary
Loehr, Mamye B.	Pierre
Loken, Emma	Faulkton
McArthur, Adeline	Harrold
McCarty, Evadne	Parker
McDonald, Inez	Cottonwood
McDougall, Tyrell	Britton
McEachran, Florence	Manchester
McEachran, Jeannette	Manchester
McElmurry, Loretta	Brookings
Madsen, Mars L.	Viborg
Marvin, Lucile	Brookings
Mathews, Hermine	Brookings
Mathews, Zoa	Brookings
Matson, John W.	Brookings
Merriman, Lucy	Brookings
Merriman, Grace	Brookings
Metzger, Vera G.	Brookings
Miller, Magdalene	Hudson
Mitchell, Donald	Brookings
Mitchell, Esther	Brookings
Moeller, Hildegard	Scotland
Muedeking, Louise E.	Tracy, Minn.
Munger, Gertrude	Carthage
Musilek, Henry	Lake Andes
Myron, Selina D.	Vermillion
Nelson, Alma	Brookings
Nessth, Gladys	Volga
Neu, Selma	De Smet
Orhrans, Venie	Brookings
Orvis, Clarkson F.	Brookings
Otterness, Mabel	Brookings
Otterness, Florence	Brookings
Parmley, Irene	Ipswich
Pastian, Albert	Herrick
Paulson, Joseph	Brandt
Paz Torrico, Marion	Cochabba, Boliva
Pearson, Mabel	Flandreau
Pike, Albert C.	Newell
Prather, Glenn	Brookings
Pultz, Ella C.	Brookings
Radley, Grace	Parker

Rand, John	Jeffers, Minn.
Robinson, George	Brookings
Roush, Joe R.	Draper
Rowley, Minnie	Brookings
Sacre, Carl W.	Brookings
Sellers, Lucile	Mt. Vernon
Severson, Lenora	Volga
Sibert, Berniece	Castlewood
Simonson, Sadie	Brookings
Slater, Mary	Castlewood
Sloan, Winifred	Brookings
Spitzer, Lena E.	Edgeley, N. D.
Swift, Cecile L.	Brookings
Swift, Dorothy	Brookings
Te Krony, Jenny	
Thomas, Alma	Mitchell
Thomson, Hazel	Castlewood
Thoreson, Glenora	Lake Preston
Tobin, Esther	
Turner, Juila	Sioux Falls
Vessey, Aleta	Wessington Springs
Walker, John	Brookings
Walker, Ruth	Brookings
Wallace, Frances M.	Minneapolis, Minn.
Walseth, Russell	Clear Lake
Walters, Raymond	Woonsocket
Wamstad, Lucile	Tracy, Minn.
Washburn, Ruby	Reville
Winsell, Laura	Miller
Yeamans, Bessie	Vienna
Young, Ben H.	Wessington
Ziegler, Pearl	Brookings

CORRESPONDENCE

Barningham, Clinton	Agr.	Wimbledon, N. D.
Bernardine, Sister M.	H. E.	Woonsocket
Brush, Alice	Agr. & H. E.	Keystone
Comstock, Earl N.	Agr.	Miles City, Mont.
Cullen, James J.	Agr.	Reliance
Gordon, Charles S.	Agr.	Forbes, N. D.
Hanson, Martin	Agr.	Fargo, N. D.
McLean, Duncan	Agr.	Westhope, N. D.
Phillips, Herbert	Agr.	Vetal
Reed, Verna M.	Agr. & H. E.	Gettysburg
Schmidt, Oscar T.	Agr.	Fallon, Mont.
Stephens, R. H.	Agr.	Bailey

SUMMARY

1920-1921

	Men	Women	Total	Grand Total
Collegiate				
Post Graduate -----	10		10	
Seniors -----	33	14	47	
Juniors -----	39	19	58	
Sophomores -----	82	43	125	
Freshmen -----	107	69	176	
	<hr/>	<hr/>	<hr/>	
Total Collegiate -----	271	145	416	416
Unclassified -----	13	51	64	64
Preparatory				
Fourth Year -----	9	5	14	
Third Year -----	19	3	22	
Second Year -----	17	1	18	
First Year -----	11	3	14	
	<hr/>	<hr/>	<hr/>	
Total Preparatory -----	56	12	68	68
School of Agriculture				
Fourth Year -----	24	7	31	
Third Year -----	32	8	40	
Second Year -----	72	13	85	
First Year -----	116	19	135	
	<hr/>	<hr/>	<hr/>	
Total School of Agriculture -----	244	47	291	291
Vocational Students -----	140		140	140
Tractor and Auto Mechanics -----	82		82	82
Creamery -----	9		9	9
Printing -----	5	2	7	7
Summer Session -----	56	103	159	159
Correspondence -----	9	3	12	12
	<hr/>	<hr/>	<hr/>	<hr/>
Grand Totals -----	885	363	1248	1248
Names Repeated -----	135	1	136	136
	<hr/>	<hr/>	<hr/>	<hr/>
Net Totals -----	750	362	1112	1112

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1921/22

South Dakota State College
of Agriculture and
Mechanic Arts

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Annual Catalog

1921-22

With Announcements for

1922-23

Brookings, South Dakota

The College Bulletin

The South Dakota State College Bulletin is published quarterly by authority of the Regents of Education.

The Bulletin contains information in detail relative to the entrance requirements of the different courses of instruction, the schedules of study, lists of instructors of the institution and its administration, equipment, organizations, publications, funds, students' expenses, scholarships, etc.

The institution includes the following departments of instruction: Agricultural Journalism, Agronomy, Animal Husbandry, Art, Botany and Plant Diseases, Chemistry, Civil Engineering, Commerce, Dairy Husbandry, Education, Electrical Engineering, English, Foreign Languages, History and Political Science, Home Economics, Horticulture and Forestry, Industrial Arts, Mathematics, Mechanical Engineering, Military Science, Music, Pharmacy, Physical Education, Physics, Poultry Husbandry, Printing, Veterinary Medicine, Zoology and Entomology, the School of Agriculture and the Tractor and Auto-Mechanics School.

In addition to the instructional work the Agricultural Experiment Station and the Agricultural Extension Division are maintained at the College.

The College bulletins are sent free, postage paid, on request. The request should indicate the department concerning which information is desired.

For bulletins and other information address the Registrar, State College, Brookings South Dakota.

Volume XIV

April, 1922

Number 4

SOUTH DAKOTA STATE COLLEGE
OF AGRICULTURE AND
MECHANIC ARTS

Annual Catalog
1921-22
With Announcements
1922-23

Published Quarterly by
THE SOUTH DAKOTA STATE COLLEGE
Brookings, South Dakota

Entered as second-class matter August 10, 1908, at the postoffice at
Brookings, South Dakota

CALENDAR

June 1922										January 1923											
S	M	T	W	T	F	S				S	M	T	W	T	F	S					
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July, 1922										February, 1923											
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September, 1922										April, 1923											
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October, 1922										May, 1923											
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November, 1922										June, 1923											
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December, 1922										July, 1923											
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24	25	26	27	28	29	30			29	30	31										
31																					

Announcements

1922

SUMMER TERM

June 13, Tuesday—First Summer Term begins.

July 21, Friday—First Summer Term ends.

July 24, Monday—Second Summer Term begins.

August 31, Thursday—Second Summer Term ends.

1922

FALL TERM

September 18, 19, Monday, Tuesday—Registration for Fall Term.

September 20, Wednesday—Class work begins at 8 a. m.

October 23, Monday—Enrollment in the School of Agriculture.

October 28, Saturday—Hobo Day.

November 11, Saturday—Armistice Day—a holiday.

November 23, Thursday—Thanksgiving Day—a holiday.

December 20, Wednesday—Work of Fall Term closes at 4:15 p. m.

1923

WINTER TERM

January 2, Tuesday—Registration for Winter Term.

January 3, Wednesday—Work of Winter Term begins at 8 a.m.

March 13, Tuesday—Commencement exercises of the School of Agriculture at 10:30 a. m.

March 14, Wednesday—Work of Winter Term and School of Agriculture closes at 4:15 p. m.

March 15, 16, 17, Thursday, Friday, Saturday—Spring Recess.

1923

SPRING TERM

March 19, 20, Monday, Tuesday—Registration for Spring Term.

March 21, Wednesday—Work of Spring Term begins at 8 a. m.

May 30, Wednesday—Memorial Day—a holiday.

June 3, Sunday—Baccalaureate Services at 10:30 a. m.

June 4, Monday—Thirty-seventh Annual Commencement at 10:30 a. m.

June 7, Thursday—Spring Term closes at 4:15 p. m.

REGENTS OF EDUCATION

Hon. T. W. Dwight - - - - - Sioux Falls
 Term expires January 1, 1923

Hon. August Frieberg - - - - - Beresford
 Term expires January 1, 1925

*Hon. F. A. Spafford, M. D. - - - - Flandreau
 Term expires January 1, 1925

Hon. J. O. Johnson - - - - - Watertown
 Term expires January 1, 1927

Hon. Alvin Waggoner - - - - - Philip
 Term expires January 1, 1927

Officers of the Board

Hon. T. W. Dwight - - - - - President

Hon. August Frieberg - - - - Vice President

Helen Gamble - - - - - Secretary

Hon. G. H. Helgerson (State Treasurer) - - Treasurer

Regents' Committee for the College

Hon. J. O. Johnson, Chairman

Hon. T. W. Dwight

*Died March 3, 1922.

College Staff

Officers of Administration

WILLIS E. JOHNSON, Ph. D., LL. D.
President

GEORGE LINCOLN BROWN, Ph. D.
Vice President; Dean of the Faculty

HUBERT BERTON MATHEWS, M. S.
Vice Dean of the Faculty; Director of the Summer School

*KATHLEEN I. GILLARD, B. A.
Acting Dean of Women

†NELLIE McCOWN, B. S.
Dean of Women

R. A. LARSON
Secretary of the College

JAMES W. WILSON, M. S. A.
Director of the Experiment Station

NIELS E. HANSEN, M. S., Sc. D.
Vice Director of the Experiment Station

‡CHRISTIAN LARSEN, M. S. A.
Director of Agricultural Extension

§W. F. KUMLIEN, B. A., M. S.
Acting Director of Agricultural Extension

ALBERT NASH HUME, M. S., Ph. D.
Superintendent of Substations; Director of State Soil Survey

VIOLA ROBBINS
Assistant Registrar

H. G. WEAVER, Captain, U. S. Army
Commandant, Reserve Officers' Training Corps

MARJORIE GRISWOLD LOGUE
Matron

*October 15, 1921 to January 1, 1922.

†Beginning January 1, 1922.

‡Given leave of absence, December 19, 1920.

§Present title since December 19, 1920.

DIVISION OF INSTRUCTION

The number after each name indicates the beginning of the present period of service in the College.

WILLIS E. JOHNSON, 1919, President.

Ph. B., M. A., Illinois Wesleyan University; B. A., M. A., Ph. D., University of Minnesota; LL. D., Dakota Wesleyan University.

GEORGE LINCOLN BROWN, 1897, Vice President; Dean of the Faculty; Professor of Mathematics.

B. S., M. S., University of Missouri; Ph. D., University of Chicago.

HUBERT BERTON MATHEWS, 1892, Vice Dean of the Faculty; Director of the Summer School; Professor of Physics.

B. S., M. S., South Dakota State College.

FREEMAN ANDREWS, 1918, Instructor in Forging.

RICHARD N. AXFORD, 1920, Director of Vocational Guidance.

A. B., University of Wisconsin.

CHARLES BACKES, 1921, Assistant Professor of Military Science and Tactics.

First Lieutenant, Infantry, U. S. Army.

W. P. BEARD, 1920, Instructor in Agricultural Education (Summer School).

B. S., Iowa State College.

GEORGE C. BIGGAR, 1921, Assistant in Dairy Husbandry.

B. S., South Dakota State College.

EDWARD R. BINNEWIES, 1913, Associate Professor of Chemistry.

B. S., M. S., South Dakota State College.

JOHN A. BONELL, 1910, Assistant Professor of Mechanical Engineering. Graduate Stout Institute.

BYRON BRIGGS BRACKETT, 1909, Professor of Electrical Engineering.

A. B., A. M., Syracuse University; Ph. D., Johns Hopkins University.

W. H. BURR, 1920, Instructor in Rural School Agriculture (Summer School).

ALFRED L. BUSHEY, 1919, Assistant Professor of Agronomy; Assistant in Agronomy, Experiment Station.

B. S., South Dakota State College; M. S., Purdue University.

ADA B. CALDWELL, 1899, Professor of Art.

CARL CHRISTENSEN, 1906, Professor of Music.

- ANNE COUGHLAN, 1920, Instructor in Violin.
Mus. B., American Conservatory of Music.
- A. A. COULSON, 1919, Instructor in Common School Branches (Summer School).
B. A., Yankton College.
- ALEXANDER F. CULHANE, 1919, Instructor in Dairy Husbandry.
B. S., South Dakota State College.
- FRANK DENNY, 1922, Instructor in Military Science and Tactics.
Sergeant, U. S. Army.
- B. A. DUNBAR, 1911, Professor of Chemistry; Chemist, Experiment Station.
A. B., A. M., Ohio Wesleyan University.
- FRED A. ENKE, 1921, Assistant in Mathematics and Physical Education.
B. S., University of Minnesota.
- ARTHUR T. EVANS, 1920, Associate Professor of Agronomy; Associate Agronomist and Crop Pathologist, Experiment Station.
A. B., University of Illinois; M. A., University of Colorado; Ph. D. University of Chicago.
- DONALD C. FARLEY, 1920, Instructor in Chemistry.
B. S., Hamline University.
- ROBERT BLACKWOOD FORSEE, 1901, Instructor in the School of Agriculture.
Principal of Pedagogy, Western College (Missouri).
- MATTHEW FOWLDS, 1913, Instructor in Agronomy; Assistant in Crops, Experiment Station.
B. S., South Dakota State College.
- *R. W. FREY, 1921, Instructor in Military Science and Tactics.
Sergeant, United States Army.
- J. RAY FRIDLEY, 1921, Supply Officer R. O. T. C.
First Lieutenant, Infantry, O. R. C.
B. S., South Dakota State College.
- URSULA T. GERNON, 1920, Instructor in Art.
Graduate Art Institute, Chicago.
- GEORGE GILBERTSON, 1914, Assistant Professor of Entomology; Assistant State Entomologist; Assistant Entomologist, Experiment Station.
B. S., M. S., South Dakota State College.
- KATHLEEN I. GILLARD, 1921, Instructor in English.
A. B., Alma College.

*Relieved from duty November 29, 1921.

RAY M. GILCREAST, 1922, Assistant in Dairy Husbandry and Apiculture.

B. S., Iowa State College.

CHESNEY O. GOTTSCHALK, 1920, Assistant Professor of Mechanical Engineering.

Graduate Stout Institute.

ARLEIGH C. GRIFFIN, 1920, Professor of Education (Summer School).

B. S., B. A., Berea College; M. A., University of Chicago.

C. D. GRINNELLS, 1920, Assistant Professor of Animal Husbandry.

D. V. M., Cornell University; B. S., University of Minnesota.

CAMERON CHARLES GULLETTE, 1921, Assistant Professor of Modern Languages.

Mus. B., A. B., Ohio University.

NIELS EBBESEN HANSEN, 1895, Professor of Horticulture and Forestry; Vice Director and Horticulturist of the Experiment Station.

B. S., M. S., Iowa State College; Sc. D., University of South Dakota.

ALBERT SPENCER HARDING, 1897, Professor of History and Political Science.

B. S., South Dakota State College; A. M., University of Nebraska.

E. B. HARDING, 1921, Instructor in Linotype Operation.

EDMOND H. HARTNETT, 1920, Assistant Professor of Industrial Art.

Pd. B., Central Missouri State Teachers' College; B. S., M. A., Columbia University.

ANTON HOGSTAD, Jr., 1917, Assistant Professor of Pharmacy.

P. C., Philadelphia College of Pharmacy; B. S., South Dakota State College.

FELIX HELMRICH, 1922, Assistant in Animal Husbandry and Poultry Husbandry.

B. S., Iowa State College.

ELMER J. HOLSTAD, 1920, Instructor in Shorthand and Typewriting (Summer School).

HOWARD H. HOY, 1899, Associate Professor of Physics and Mechanical Engineering.

B. S., M. S., South Dakota State College.

ALBERT NASH HUME, 1911, Professor of Agronomy; Superintendent of Substations; Agronomist, Experiment Station; Director of State Soil Survey.

B. S. A., M. S., Purdue University; Ph. D., Goettingen University.

LYNN D. HUTTON, 1920, State Leader of Barberry Eradication.

B. S., South Dakota State College.

(Detailed by U. S. Department of Agriculture.)

- JOSEPH GLADDEN HUTTON, 1911, Associate Professor of Agronomy; Associate Agronomist, Experiment Station; Assistant Director of State Soil Survey.
B. S., University of Chicago; M. S., University of Illinois.
- GEORGE JANSSEN, 1921, Instructor in Agronomy; Assistant in Agronomy, Experiment Station.
B. S., South Dakota State College.
- PEARL JANSSEN, 1921, Instructor in the School of Agriculture.
B. S., South Dakota State College.
- ARTHUR M. JOHNSON, 1919, Instructor in Music.
- SILAS W. JOHNSON, 1919, Assistant Professor of Education.
B. A., M. A., University of Iowa.
- *C. B. KAERCHER, 1921, Coordinator, Vocational Rehabilitation.
B. S., University of Minnesota.
(Detailed by the U. S. Veteran's Bureau).
- PURLEY L. KEENE, 1921, Instructor in Horticulture.
B. S., University of Minnesota.
- NELLIE J. KENDALL, 1912, Instructor in English.
B. S., South Dakota State College.
- PAUL W. KIESER, 1920, Professor of Journalism; Agricultural Editor.
- H. L. KOHLER, 1921, Assistant Professor of Music, in charge of Voice.
B. A., Bluffton College; B. Mus., American Conservatory of Music.
- ARTHUR HENRY KUHLMAN, 1918, Associate Professor of Animal Husbandry; Associate Animal Husbandman, Experiment Station; Superintendent of College Farms.
B. S., M. S., University of Wisconsin.
- LOUISE LOCKERBY LEATON, 1916, Assistant Professor of Home Economics.
B. S., Illinois Wesleyan University.
- CHARLES CLINTON LIPP, 1913, Professor of Veterinary Medicine; Consulting Veterinarian, Experiment Station; Director of the Animal Health Laboratory.
D. V. M., Ohio State University.
- LAURA J. McARTHUR, 1920, Assistant Professor of Home Economics.
B. S., University of Minnesota.
- GEORGE W. McCARTY, 1920, Assistant Professor of English.
B. A., University of Indiana; M. A., Columbia University.
- ADA McCORDIC, 1918, Assistant Professor of Mathematics.
A. B., Zion College; A. M., University of Wisconsin.

- GERTRUDE McKNIGHT, 1915, Instructor in Vocational Subjects.
- JOSEPH A. MACHLIS, 1919, Assistant in Agronomy in connection with the State Soil Survey.
B. S., University of Wisconsin.
- FREDERICK JAMES MARSTON, 1921, Assistant Professor of English.
A. B., M. O., Valparaiso University.
- HUBERT MATHEWS, 1921, Instructor in Art (Summer School).
B. S., South Dakota State College.
- I. L. MILLER, 1920, Associate Professor of Mathematics.
A. B., A. M., University of Indiana.
- OSCAR MILLS, 1921, Instructor in the School of Agriculture.
B. S., South Dakota State College.
- JANE MULLENBACH, 1920, Associate Professor of English; Acting Head of the department.
A. B., University of Michigan; A. M., University of Chicago.
- THOMAS M. OLSON, 1920, Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman, Experiment Station.
B. S. A., University of Wisconsin; M. S. A., Iowa State College.
- MARGARET OPPERUD, 1921, Instructor in the School of Agriculture.
- EARL C. O'ROKE, 1920, Assistant Professor of Zoology.
A. B., M. A., University of Kansas.
- W. ALBERT PETERSON, 1912, Associate Professor of Music.
Mus. Bac., American Conservatory of Music.
- E. J. PETRY, 1920, Professor of Botany and Plant Pathology.
B. S., Ohio State University; M. S., Purdue University; Ph. D., University of Michigan.
- W. H. PIERRE, 1921, Assistant in Agronomy in connection with the State Soil Survey.
B. S., University of Wisconsin.
- EDITH PIERSON, 1919, Professor of Home Economics.
B. S., Lewis Institute.
- *GREGOR B. PIRSCH, 1922, Coordinator, Vocational Rehabilitation,
B. S., M. S., University of Minnesota.
(Detailed by the U. S. Veteran's Bureau.)
- WILLIAM HOWARD POWERS, 1905, Librarian; Associate Professor of English.
A. B., Miami University; A. M., Harvard University.
- ELLSWORTH O. PRATHER, 1919, Professor of Commercial Science.
A. B., Austin College; M. Accts., Gem City Business College.

*Since January 1, 1922.

MARCIA PROSSER, 1920, College Nurse.

R. N., Bishop Clarkson Hospital (Omaha).

HAZEL E. RINK, 1920, Instructor in Piano.

Studied at Cincinnati Conservatory of Music.

GRACE ROHRBACH, 1921, Instructor in the School of Agriculture.

B. S., South Dakota State College.

ERVIN ROSS, 1921, Instructor in Military Science and Tactics.

Sergeant, U. S. Army.

KARL M. ROTTLUFF, 1920, Assistant in Pharmacy.

Ph. G., Ph. C., B. S., South Dakota State College.

EARL R. SERLES, 1915, Professor of Pharmacy.

Ph. G., B. S., M. S., South Dakota State College.

HARRY C. SEVERIN, 1909, Professor of Zoology and Entomology; Entomologist, Experiment Station; State Entomologist.

A. B., University of Wisconsin; A. M., Ohio State University.

EARL E. SHOEN, 1920, Assistant in Forging and Acetylene Welding.

DAVID L. SNADER, 1919, Professor of Civil Engineering.

C. E., M. S., Ohio Northern University.

HALVOR C. SOLBERG, 1891, Professor of Mechanical and Steam Engineering.

B. S., South Dakota State College; B. M. E., M. E., Purdue University.

LENA SPITZER, 1921, Assistant in Home Economics.

B. S., South Dakota State College.

*GUY P. SQUIRE, 1920, Counselor, Vocational Rehabilitation.

ROSALIE A. STECH, 1921, Instructor in English (Summer School).

B. A., University of Indiana.

HARRIET S. STEERE, 1920, Instructor, Primary Methods (Summer School).

A. B., University of Wisconsin.

GEORGE LEIGH STEVENSON, 1919, Professor of Poultry Husbandry.

B. S., Colgate University; B. S. A., Cornell University.

ALFRED STUMLEY, 1921, Instructor in the School of Agriculture.

B. S., South Dakota State College.

J. B. TAYLOR, 1920, Instructor in Veterinary Science and Bacteriology.

V. M. D., University of Pennsylvania.

SETH THORNTON, 1920, Superintendent of the School of Printing,
Instructor in the Printing Trades.

*Until January 1, 1922.

- MAUDE UMMEL**, 1920, Instructor in Commercial Science.
B. S., State Teachers' College (Maryville, Missouri).
- VERNE V. VARNEY**, 1921, Y. M. C. A. Secretary.
B. S., University of Wisconsin.
- EDWARD T. VOSS**, 1921, Instructor in the Common School Branches (Summer School).
B. S., South Dakota State College.
- CLYDE T. WALTER**, 1920, Assistant Professor of Chemistry.
B. S., Ottawa University; M. A., Missouri University.
- GRACE E. WASSON**, 1920, Instructor in Home Economics.
Ph. B., University of Chicago.
- H. G. WEAVER**, 1921, Commandant, Professor of Military Science and Tactics.
U. S. Military Academy, Captain, Infantry, U. S. Army.
- CLARENCE FLOY WELLS**, 1919, Instructor in Chemistry; Assistant Chemist, Experiment Station.
A. B., M. S., West Virginia University.
- C. A. WEST**, 1919, Professor of Physical Education.
B. S., Coe College.
- M. C. WHITE**, 1920, Instructor in Science (Summer School).
B. S., South Dakota State College.
- J. A. WILLIAMS**, 1921, Professor of Education and Principal of the Secondary School of Agriculture.
M. A., University of Indiana.
- HAZEL M. WILLIS**, 1919, Associate Professor of Art.
B. S., Columbia University.
- JAMES WILBUR WILSON**, 1902, Professor of Animal Husbandry; Director and Animal Husbandman of the Experiment Station.
B. S. A., M. S. A., Iowa State College.
- CLINTON R. WISEMAN**, 1918, Assistant Professor of Vocational Education, in charge of Agricultural Education.
B. S., University of Wisconsin.
- THOMAS H. WRIGHT, Jr.**, 1917, Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman and Bacteriologist, Experiment Station.
B. S., Iowa State College.
- GERTRUDE S. YOUNG**, 1907, Assistant Professor of History and English.
A. B., University of Wisconsin.

STUDENT ASSISTANTS

- JOHN MOORE, Assistant in Botany.
CLARKSON F. ORVIS, Assistant in Industrial Arts.
JOSEPH SMITH, Assistant in Animal Husbandry.
ELIZABETH SOLBERG, Assistant in Botany.
ALMA THOMAS, Assistant Librarian.
-

AGRICULTURAL EXPERIMENT STATION STAFF
AND ASSISTANTS

- WILLIS E. JOHNSON, Ph. D., LL. D., President.
- JAMES WILBUR WILSON, 1902, Director and Animal Husbandman;
Professor of Animal Husbandry, Instructional Division.
B. S. A., M. S. A., Iowa State College.
- NIELS E. HANSEN, 1895, Vice Director and Horticulturist; Professor
of Horticulture and Forestry, Instructional Division.
B. S., M. S., Iowa State College; Sc. D., University of South Da-
kota.
- ALFRED L. BUSHEY, 1919, Assistant and Analyst in Agronomy; As-
sistant Professor of Agronomy, Instructional Division.
B. S., South Dakota State College; M. S., Purdue University.
- B. A. DUNBAR, 1911, Consulting Chemist, Experiment Station; Profes-
sor of Chemistry, Instructional Division.
A. B., M. A., Ohio Wesleyan University.
- ARTHUR T. EVANS, 1920, Associate Agronomist and Crop Pathologist;
Associate Professor of Agronomy, Instructional Division.
A. B., University of Illinois; M. A., University of Colorado; Ph.
D., University of Chicago.
- MATTHEW FOWLDS, 1913, Assistant in Crops; Assistant in Agronomy,
Instructional Division.
B. S., South Dakota State College.
- GEORGE GILBERTSON, 1914, Assistant Entomologist; Assistant Pro-
fessor of Entomology, Instructional Division; Assistant State En-
tomologist.
B. S., M. S., South Dakota State College.
- ALBERT NASH HUME, 1911, Agronomist and Superintendent of Sub-
stations; Professor of Agronomy, Instructional Division.
B. S. A., M. S., Purdue University; Ph. D., Goettingen University.
- JOSEPH GLADDEN HUTTON, 1911, Associate Agronomist; Associate
Professor of Agronomy, Instructional Division.
B. S., University of Chicago; M. S., University of Illinois.

- GEORGE JANSSEN, 1921, Assistant in Agronomy; Instructor in Agronomy, Instructional Division.
B. S., South Dakota State College.
- PAUL W. KIESER, 1920, Agricultural Editor; Professor of Journalism, Instructional Division; Editor of Bulletins for College, Experiment Station and Agricultural Extension Division.
- ARTHUR H. KUHLMAN, 1918, Associate Animal Husbandman; Superintendent of College Farms; Associate Professor of Animal Husbandry, Instructional Division.
B. S., M. S., University of Wisconsin.
- CHARLES C. LIPP, 1913, Consulting Veterinarian, Experiment Station; Professor of Veterinary Medicine, Instructional Division; Director of the Animal Health Laboratory.
D. V. M., Ohio State University.
- THOMAS M. OLSON, 1920, Assistant Dairy Husbandman; Assistant Professor of Dairy Husbandry, Instructional Division.
B. S. A., University of Wisconsin; M. S. A., Iowa State College.
- H. C. SEVERIN, 1909, Entomologist; Professor of Entomology and Nature Study, Instructional Division; State Entomologist.
A. B., University of Wisconsin; M. A., Ohio State University.
- CLARENCE F. WELLS, 1919, Assistant Chemist; Instructor in Chemistry, Instructional Division.
A. B., M. S., West Virginia University.
- THOMAS H. WRIGHT, Jr., 1917, Assistant Dairy Husbandman and Dairy Bacteriologist; Assistant Professor of Dairy Husbandry, Instructional Division.
B. S., Iowa State College.
-

AGRICULTURAL EXTENSION SERVICE

- WILLIS E. JOHNSON, 1919, Ph. D., LL. D., President.
- W. F. KUMLIEN, 1917, Acting Director of Extension.
B. A., Lawrence College; M. S., South Dakota State College.
- PAUL P. BANKER, 1920, Extension Specialist in Livestock.
B. S., University of Wisconsin.
- M. R. BENEDICT, 1919, Professor of Farm Management.
B. S., University of Wisconsin.
- A. J. DEXTER, 1917, Assistant County Agent Leader.
B. S., University of Wisconsin.
- MARY A. DOLVE, 1921, Extension Specialist in Foods.
B. S., North Dakota Agricultural College.

- A. L. FORD, 1920, Extension Specialist in Entomology.
B. S., M. S., Kansas Agricultural College.
- E. W. HALL, 1914, County Agent Leader.
B. S., University of Wisconsin.
- J. C. HOLMES, 1919, Extension Specialist in Livestock.
B. S., Kansas Agricultural College.
- LYNN HUTTON, 1919, State Leader of Barberry Eradication.
B. S., South Dakota State College.
(Detailed by the U. S. Department of Agriculture).
- H. M. JONES, 1920, Extension Specialist in Dairying.
B. S., South Dakota State College.
- R. E. JOHNSTON, 1916, Extension Specialist in Agronomy.
B. S., South Dakota State College.
- MAY KIETHLINE, 1918, Assistant State Club Leader.
- P. W. KIESER, 1920, Agricultural Editor; Professor of Journalism,
Instructional Division; Editor of Bulletins for College,
Experiment Station and Extension Service.
- AZALEA LINFIELD, 1921, Extension Specialist in Clothing.
B. S., Montana Agricultural College; M. A., Columbia University.
- H. D. McCULLOUGH, 1918, Assistant Farm Management Demonstrator.
B. S., North Dakota Agricultural College; B. A., Cornell College.
- R. L. PATTY, 1916, Extension Specialist in Agricultural Engineering.
B. Di., Iowa State Teachers' College; B. S. in Agricultural Engineering, Iowa State College.
- P. J. SCARBRO, 1918, State Club Leader.
A. B., Highland Park College; B. Di., Iowa State Teachers' College.
- CLARA M. SUTTER, 1921, Extension Specialist in Poultry.
- C. L. STARR, 1920, Assistant County Agent Leader.
- G. H. VALENTINE, 1920, Assistant State Club Leader.
B. S., South Dakota State College.
- G. S. WEAVER, 1917, Extension Specialist in Animal Diseases.
V. S., Ohio State University.
- SUSAN Z. WILDER, 1921, State Home Demonstration Leader.
B. S., B. A., University of Minnesota; M. S., University of Chicago.
- C. G. WORSHAM, 1922, Associate Farm Economics.
B. S., M. S., University of Minnesota.
(Detailed by the State Department of Agriculture).

COUNTY CLUB LEADERS

County

GRANT	Gladys Skouge	Milbank
MINNEHAHA	Eva Bickel	Sioux Falls

HOME DEMONSTRATION AGENT

BROWN	Edith A. Sloan	Aberdeen
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COUNTY AGRICULTURAL AGENTS

BEADLE	Lewallen, Dick	Huron
BON HOMME	Monroe, M. O.	Tyndall
BROOKINGS	Boyts, Harry J.	Brookings
BROWN	Boardman, W. C.	Aberdeen
BUTTE	Ellison, A. D.	Belle Fourche
CAMPBELL and McPHERSON	Broich, W. F.	Eureka
CLARK	Basart, V. D.	Clark
CLAY	Griggs, W. D.	Vermillion
CODINGTON	Ausman, L. V.	Watertown
CORSON	Osborne, O. M.	McIntosh
DAY	Gunning, John A.	Webster
DEUEL	Parish, W. G.	Clear Lake
DEWEY	Hermstad, Oscar	Timber Lake
DOUGLAS	Kennard, George B.	Armour
EDMUNDS	Laney, J. Carl	Ipswich
FALL RIVER	Sloan, Sam L.	Hot Springs
FAULK	Gilbert, Chas. J.	Faulton
GRANT	Smith, R. E.	Milbank
HAAKON	Mills, Oscar	Philip
HAMLIN	Tompkins, A. W.	Hayti
HAND	Aicher, E. H.	Miller
HUGHES	Nelson, N. F.	Pierre
JACKSON	Johnson, Ira S.	Kadoka
JERAULD	Austin, Guy W.	Wessington Springs
JONES	Gamble, W. P.	Murdo
KINGSBURY	Jones, D. C.	DeSmet
LAKE	J. D. Morrison	Madison
LAWRENCE	Hall, Evan W.	Spearfish
LINCOLN	Palm, A. W.	Canton
LYMAN	Sayler, Chas. D.	Kennebec
MARSHALL	Browning, J. M.	Britton
McCOOK		Salem
MELLETTE	Gray, A. S.	White River
MINER	Swanson, R. O.	Howard

MINNEHAHA	Hamilton, J. H.	Sioux Falls
MOODY	Davis, Sumner E.	Flandreau
PENNINGTON	Ladd, Leonard L.	Rapid City
PERKINS		Bison
POTTER	Hansen, George	Gettysburg
SPINK	Smith, Percy T.	Redfield
ROBERTS	Buchanan, R. R.	Sisseton
STANLEY	Davis, Deane G.	Ft. Pierre
SULLY	Woodruff, L. M.	Onida
TRIPP	Lange, F. E.	Winner
UNION	Putnam, H. O.	Elk Point
WALWORTH	Lippert, L. C.	Selby
YANKTON	Brander, J. M.	Yankton

DAIRY EXPERT AND ASSISTANTS

- A. P. RYGER, 1909, State Dairy Expert.
 RUDOLPH B. BUCHOLZ, 1920, Assistant Dairy Expert.
 B. S., South Dakota State College.
 TERRENCE A. MEEHAN, 1918, Assistant Dairy Expert.
 JOHN THOMSON, 1920, Assistant Dairy Expert.
 HAZEL J. COLEMAN, Secretary to the Dairy Expert.

OTHER OFFICERS AND EMPLOYEES

- ANNA ANDERSON, Secretary to the Director of Extension.
 ANNA CACH, Manager of the College Book Store.
 DAVID DONER, Assistant Secretary of the College.
 BERNICE M. HAHN, Secretary to the President.
 PHILIP W. HANSON, Secretary to the Director of the Experiment Station.
 *M. B. HINSVARK, Foreman Cottonwood Substation.
 P. P. HOFF, Foreman of the Dairy Farm.
 JOSEPH HOFFMAN, Foreman Eureka Substation.
 ELMER J. HOLSTAD, Secretary to the Dean.
 FRANK HUSSEY, Foreman Vivian Substation.
 A. T. LARSON College Engineer.
 ARNE LARSON, Foreman of the Horticultural Farm.
 LAWRENCE McGARRY, Foreman of the Agricultural Farm.
 GEORGE E. PURDY, Custodian of the Buildings and Grounds.
 †H. M. SANDERSON, Foreman Cottonwood Substation.
 MARION R. ROTH, B. A., Assistant to the Agricultural Editor.
 CHARLES SAYLER, Foreman Vivian Substation.
 L. W. SUTTON, Foreman of the Agronomy Farm.
 S. W. SUSSEX, Foreman Highmore Substation.

*Until 1922.

†After 1922.

General Information

HISTORICAL SKETCH

Establishment.—An act of the Territorial Legislature, approved February 21, 1881, provided that “an Agricultural College for the territory of Dakota be established at Brookings, * * * provided that a tract of land of not less than eighty acres be secured and donated to the Territory of Dakota.”

The Legislature of 1883 provided for the erection of the first building. This building, now known as the Central Building, was opened for use September 24, 1884.

The Enabling Act admitting the State of South Dakota, approved February 22, 1899, provided that 120,000 acres of land be granted for the use and support of the Agricultural College, as provided in the acts of Congress making donations of lands for such purpose. The acts of Congress here referred to are primarily, the act of July 2, 1862, known as the Morrill Act, providing that 30,000 acres of public land for each representative in Congress be given to each state towards “the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts.”

By the Enabling Act of 1889 Congress granted to South Dakota for the Agricultural College 40,000 additional acres, in lieu of a grant that had been made to new states in 1841. Thus the total land grant for the Agricultural College was 160,000 acres.

In the Morrill Act of 1862, such colleges were spoken of as “Colleges of Agriculture and Mechanic Arts.” In order that the name might more nearly conform to the object for which the College was established, the Legislature of 1907 changed the name from “The Agricultural College of South Dakota” to “The State College of Agriculture and Mechanic Arts.”

The *Experiment Station was organized in 1887, under the Hatch Act of Congress, which provided for the establishment of agricultural experiment stations in connection with agricultural colleges. These stations were established for the purpose of conducting experiments and research work in connection with all branches of the agricultural industries of the United States, due regard being paid to the various conditions and needs of the respective states. It is also their object to aid in diffusing among the people useful and practical information on all subjects connected with agriculture. The South Dakota station conducts its investigations chiefly along the following lines: Live stock, dairying, soils, field experiments with crops, greenhouse work, trees and small fruits, injurious insects, and chemistry of plant growth and foods.

The Division of Agricultural Extension was established to carry to the people of the state the results of the work of the College, and also the approved methods as practiced by the most successful farmers in the different localities. From its earliest history the College has sent out members of its staff to help the people of the state by addressing meetings, acting as judges at fairs and for agricultural clubs, and in various other ways. The College, however, had no money available to conduct such work in a systematic way until 1914, when the Smith-Lever Act was passed by Congress providing \$10,000 annually to each state beginning with July 1, 1914 to be used for agricultural extension work by the State Colleges of Agriculture in cooperation with the United States Department of Agriculture. The act also provides that beginning with July 1, 1915, additional amounts which increase from year to year are to be given to the different states upon the condition that the states appropriate equal amounts to be used in connection with the national fund for the extension work.

Sources of Income.—A joint resolution passed by the Legislature of 1890 accepted the lands granted in the enabling act. These Lands were not at once assigned. The Commissioner of Public Lands reported that 64,658 acres had been selected.

*See the index for references to additional information concerning the Agricultural Experiment Station and the Extension Division.

All have since been selected; very few have been sold. A small amount is received yearly as rental. The first income recorded was \$1,197.71, September 1, 1896. No school lands may be sold for less than ten dollars an acre. When all the land is sold it will yield an endowment of approximately three million dollars.

The Morrill Act passed by Congress in 1890 provides a yearly appropriation for "the more complete endowment and support of colleges for the benefit of agriculture and mechanic arts." Under this act the College now receives from the general government the sum of \$25,000 per annum.

An act making appropriation for the Department of Agriculture, approved by Congress March 4, 1907, provides for the future endowment and support of these colleges. The bill, which was introduced by Senator Knute Nelson, of Minnesota, stipulates that the expenditure of the fund shall be governed in all respects by the provisions of the Morrill Act, and also that a portion of the money may be used to provide for the training of instructors in agriculture and mechanic arts. This act made an appropriation of \$5,000 for the year 1907-1908, which increased \$5,000 each year until it reached \$25,000 per annum. The College, therefore, receives \$50,000 annually from the National Government for instructional purposes.

The College also receives aid from the State, biennial appropriations being made by the Legislature for maintenance and buildings.

The Hatch Act provides that the agricultural experiment stations should each receive \$15,000 annually from the National government. This amount has been increased by the provisions of the Adams Act of 1906, so that the Experiment Station now receives \$30,000 a year for maintenance.

Under the Smith-Lever Act, the College receives \$10,000 annually from the National Government for extension work. Under the same act during the present year the College will receive \$31,862.24 additional, on the condition that an equal amount is provided by the State to be used with the national fund. The State Legislature appropriated \$49,000 for the

County Supervision Fund in addition to the amount appropriated as the Smith-Lever offset.

LOCATION, BUILDINGS AND EQUIPMENT

The Location.—The College is located in Brookings, which has a population of about four thousand people. The city is situated on the Central Dakota Division of the Chicago & Northwestern Railway, the Watertown branch making connection with the main line at this point.

Few educational institutions are more advantageously located. The campus, lying at the northeast corner of the City of Brookings, is approached by wide paved streets, which are shaded with well grown trees. The lawns of the city are well kept and abound in ornamental plants and shrubs. The houses are nearly all modern in equipment, and many of them are new and most attractive in appearance. City conveniences are provided mostly from municipal plants. There have been no saloons for over thirty years and the city atmosphere is favorable to the establishment and continuance of good habits.

The College Buildings and Grounds.—The college campus is ornamented with choice and tasteful varieties of trees and shrubs and laid out with necessary walks and drives. Adjoining on the rear are the horticultural gardens, and to the north, northeast, and northwest are the college farms.

The oldest building on the campus, called the Central Building, was erected in 1884. This and the old North Building are given over to general class room and laboratory purposes.

The other old building, recently known as the Experiment Station Building, has been remodeled and now houses the Extension Division.

The Agricultural and Administration Building provides executive offices, an auditorium, laboratories, class rooms and offices for the various agricultural departments and the department of home economics.

The Physics-Engineering Building is occupied by the physics and the engineering departments with their various class rooms, laboratories and shops.

The Plant Breeding Building, together with the large Greenhouse, furnishes room for the work that is being conducted by the departments of horticulture and entomology.

The new Stock Judging Pavilion has a fine amphitheater into which stock used for judging may be brought, thus affording an unobstructed view for every student.

The Chemistry Building, a two-story structure, is occupied by the class rooms and laboratories of this department.

The Creamery is a two-story building which furnishes quarters for the department of dairy husbandry and a creamery which is conducted on a commercial scale.

The old Gymnasium, a two-story building, is used for the work in farm mechanics. This includes instruction in autos, tractors and farm machinery.

The new Armory provides offices, bath rooms, lockers, dressing rooms, target practice room, etc., for the departments of military and physical education. The main floor is 100 feet by 165 feet, free from supports, providing ample room for military drill and for athletics. A tract of land near the Armory has been fitted up for outdoor exercises and sports.

Wenona Hall and Wecota Hall are built adjoining each other, forming a splendid brick dormitory for young ladies, on a site just across the street from the campus. They will accommodate about 180 women.

The Vocational Men's Dormitory which has just been completed will accommodate about 160 men. This building was erected for the benefit of men who have been disabled while in the United States Army or Navy, and are being sent to the College for training by the United States Veterans' Bureau. (See following pages for details concerning dormitories.)

The central heating and electric light plant occupies a brick structure in the rear of the campus. The buildings are all heated by steam and lighted by electricity generated in this plant.

Near the campus on the adjoining college farm are located the agricultural and dairy barns, together with a num-

ber of smaller buildings which are devoted to agricultural purposes.

The Farm and Horticultural Gardens.—The college farms include seven hundred acres, about sixty acres of which are used by the Agricultural Experiment Station as an experimental farm. Here the field experiments with field crops, seed germination and soil preparation are conducted, and the students may witness and actually participate in this scientific work. The remainder of the farm is used as a model stock and dairy farm under the direction of the professor of animal husbandry. Practical work in experiments involving the best farming practices for this region is given the students.

The horticultural gardens comprise about fifty acres adjoining the campus. Here and in the greenhouse a large amount of work in fruit propagation and plant experimentation is being carried on.

The Laboratories, Shops and Museums.—Well fitted laboratories and shops have been provided in all those departments where their use is made necessary by modern educational methods. The value of illustrative materials has been recognized, and numerous departments have made large collections and museums. The equipment of the various departments is described in connection with the description of their work.

The Library and Reading Room.—The library, occupying rooms on the first floor of the Central Building, contains over 24,000 bound volumes and about 8,000 pamphlets. The institution is a repository for the government and contains sets of government publications dated from 1886. Many of the more valuable sets have been extended to an earlier date. Care has been exercised in the selection of books in order that each department may have proper reference books at the disposal of the students. The books are arranged according to the Dewey system of classification and are completely catalogued in the card catalogue. The library also receives the cards from the government cataloguing the bulletins of the experiment stations and the publications of the United States Department of Agriculture. The files of many standard

scientific and literary periodicals are kept bound. The reading room is abundantly supplied with current periodicals and newspapers. The library is open nearly all the time, day and evening, and is at the disposal of students for the purpose of study and reading. Someone is in charge at all times to give help and information to those using the library.

The Postal Facilities.—The College furnishes first-class postal facilities. Station A, Brookings, South Dakota, is a Federal Postoffice, located in the Administration Building at the College. Mail is delivered at convenient times during the day, making it unnecessary for students to go to the city post-office.

ORGANIZATION AND GOVERNMENT

The Board of Regents.—By an act of the Legislature approved March 10, 1897, provision was made for the appointment of the Regents of Education, who have charge of all of the educational institutions which are maintained either wholly or in part by the State. The terms of office of the regents are each six years and expire at different times, so that the board is a continuous body. Appointments to the board are made by the Governor, with the approval of the Senate, "of persons of probity and wisdom from among the best and best known citizens, residents of different portions of the State, none of whom shall reside in the counties in which any of the state educational institutions are located, who shall be designated as the Regents of Education."

Among the powers and duties of the regents as defined by law some important ones are, to employ members of the different faculties and other agents, to determine the proper number of teachers in said faculties, also their compensation and terms of employment, to establish departments, to settle upon the courses of study, to determine the rules to be enacted for the government of students, to decide upon text books to be used, to fix tuition fees, to guard against unwise duplication of departments, to confer degrees, to control the Agricultural Experiment Station, and to promote education among

the farmers by providing for institutes; in fact, to make all regulations as to the executive and instructional functions of the educational institutions of the State. The regents govern the College largely through a regents' committee.

The Faculty.—The faculty, consisting of the president and professors, all of whom are elected by the regents, determines in large part the general policy of the College. The professors are heads of the different departments of instruction which they represent and are responsible to the president, who is in charge of all matters of administration. The president, in turn, is responsible to the regents for the whole work of the institution. The president appoints, at the beginning of each college year, certain faculty committees which take up such work as may be assigned them by the president and faculty.

In the government of the College the faculty relies chiefly upon the sense of duty of the students. The student is expected to pursue his studies with diligence, to attend classes regularly and maintain good behavior at all times. Students are not only under the direct supervision of the faculty while on the campus, but are responsible for their conduct wherever they may be.

In order that the work of the College may be rendered as efficient as possible and all relations made harmonious, a set of regulations, chiefly governing matters of classification, has been adopted by the faculty. No set rules are expected to cover every condition that arises, and all students should recognize the importance of co-operation with the faculty in their efforts to make college life helpful to the student body as a whole.

STUDENT ACTIVITIES

Faculty Control.—While the students are allowed wide latitude in carrying on affairs which vitally concern themselves, such as athletic, literary, musical, social and other activities, the faculty retains an advisory interest in all such matters, and has the right at any time to pass reasonable regulations for the welfare of the College.

The Student Association.—The athletic, debating and oratorical interests, and the student publication, the Industrial Collegian, are under the control of the Student Association, which governs these activities by means of a Board of Control consisting of students and members of the faculty. This board is organized into the Athletic, the Collegian, and the Debating Councils, each of which directs the respective interests that come under it. A fee of \$3.00 a term (\$5.00 for the School of Agriculture term) is charged for membership, which admits the holder to all student activities under the supervision of the association and pays for a subscription to the Industrial Collegian.

The Women's Self-Government Association.—This is a co-operative government organization for women. Each woman by virtue of her registration is a member of the organization and is expected to cooperate in carrying out the policies of the association.

Athletics.—Under the auspices of the local organization and a number of college athletic associations of the State, all kinds of athletic sports are practiced and encouraged. Students should understand, however, that their studies must receive the first consideration; and that the purpose of athletic exercises is to develop gentlemanly qualities in those who participate in them.

Oratory and Debating.—Each year for a number of years representatives of the College have met students from other institutions in debating contests. The members of the local teams are chosen in a series of preliminary contests in which all are encouraged to take part. There have thus been aroused among the student body a large interest in this kind of work and a healthy rivalry to obtain places on the intercollegiate teams.

Upon the recommendation of the instructor in charge of debating, as much as four credits are given a student who takes part in an intercollegiate debate.

A representative of the College is sent each year to the intercollegiate oratorical contest of the State. This student is selected by means of a local preliminary contest. In order that

this contestant may fully represent the College, the faculty has imposed the requirement that those competing for this honor must be pursuing regular work for the bachelor's degree.

The Student Publications.—The *Industrial Collegian* is a weekly paper published by the students of the College. It is intended to be a mirror of student life at this institution, and all phases of college activity have representatives on its staff of editors.

The *Jack Rabbit* is published annually by the junior class, and is a good representative and exponent of college life.

Members of the staffs of the *Industrial Collegian* and the *Jack Rabbit* may receive credit for work on these publications if this is done in co-operation with the department of Journalism. See description of this department.

The Literary Societies.—The literary society is an important factor in the education of the students and all are strongly advised to take part in this kind of work. There is a number of such societies in the College both for collegiate and secondary school students.

The Christian Associations.—In the state schools the Young Men's and Young Women's Christian Associations occupy unique positions. They are the only organizations whose primary object is the moral development of the student body. Their platforms are broad enough to allow every student who stands for pure manhood and womanhood to affiliate himself or herself with them. The purpose of the associations is to present the value of Christian living to the student and to the state, and to create an atmosphere of good-fellowship among the members of the student body. Each association is represented by a local secretary and also by state and international college secretaries.

Other Student Organizations.—Among these may be mentioned the Art Club, which encourages interest in art by bringing exhibits to the College and in various other ways; the Chorus, Orchestra, and Bands, which give a series of musical entertainments during the year; the Agricultural Club, the Engineering Club, the Pharmacy Club, the Home

Economics Club, the Commercial Club, the Fine Arts Club, the Graphic Arts Club, and other organizations which promote interest along the various lines of college work.

TUITION, LIVING, AND OTHER EXPENSES

Tuition and Other Fees.—The following tuition fees are charged:

For work arranged in three months terms, \$4 for the term. This includes the collegiate and preparatory work of the college year, the auto-tractor course, and the three months creamery course.

For the School of Agriculture term of five months, \$6.

For each Summer School term of six weeks, \$5.

For special music fees, see the department of music.

An incidental fee of \$2 per term (\$3 for the School of Agriculture) is paid by each student, the fund being used mainly for health service.

No deduction in tuition fees is made when a student enters late.

A laboratory fee is charged for the use of each laboratory in which the student takes work. The amounts of the laboratory fees may be found mentioned in the description of the subjects under the respective departments. (Also see index for "laboratory fees.") Books and other supplies are furnished by the student.

As an inducement to students to register promptly, the regents have imposed the rule that a tardy-enrollment fee of twenty-five cents per day shall be collected of all students who enroll subsequent to the regular day announced for that purpose. However, in no case shall the tardy-enrollment fee exceed one dollar and fifty cents.

By action of the regents the tuition and incidental fees and laboratory fees, after having been paid, will in no case be refunded.

Scholarships, which afford free tuition to those who hold them, are granted to the following persons: (1) Honor graduates from accredited high schools. (2) Persons who have

been honorably discharged from active military and other war service. (3) Students who receive scholarship appointments from their State senators or representatives. (4) A few graduate students to enable them to pursue work towards the master's degree. For further details see the section of catalog describing "Scholarships and Honors."

Estimate of Expenses.—On account of the rapidly changing financial conditions, it is not possible to make a very accurate estimate of the necessary yearly expenses of a student. At the present time these are approximately as follows for the college year:

Board and Room	\$300.00
Tuition	12.00
Incidental Fee	6.00
Fees in Student Association	9.00
Laboratory Fees	15.00
Books and Supplies	40.00
Laundry Expenses	25.00
Incidentals	40.00
	\$447.00

While the above is considered as a reasonable estimate, much depends upon the character of the student and the work he is taking.

Clothing is not included in the above estimate, since this item is approximately the same, whether the person is in college or not. However, all able-bodied men of collegiate rank below the junior year and of all classes above the freshman in the school of agriculture are required to take military drill and are furnished uniforms by the War Department, thus being saved considerable expense. (For further information see description of military department.)

Rooms and Board.—Every effort is made by the college authorities to render the living conditions of the students wholesome and pleasant. If new students will write, the men to the Secretary of the Young Men's Christian Association, the women to the Dean of Women, these persons will arrange to have them met at the train and to assist them in getting suitably located.

All students must live in rooming places approved by the faculty. Wherever students reside, they are expected to conform to the general regulations of the College governing absences from the home, study hours, and other matters. Men students are not permitted to room in residences where women students, women employed in or about the city, or any girls or women not members of the housekeepers' immediate family, are rooming. This rule applies conversely to women students. A special bulletin giving the college regulations concerning relations of students and landladies, and other such matters, may be obtained by applying to the Registrar.

Women students whose homes are not in Brookings are required to room and board in the women's dormitories unless permission to do otherwise is granted in advance by the college authorities. Men students can find approved rooms in private homes, or in the men's dormitory. Since this building has been provided for the accommodation of the vocational men, these will be taken care of before rooms are assigned to other men. (See following pages for details concerning the dormitories.)

The Women's Dormitories.—The two dormitories, Wenhona Hall and Wecota Hall, will accommodate about one hundred eighty young women. Everything possible is done to make a real home for those who live there. The young women are given a large share in the government of the halls, and are thus encouraged to form orderly habits and high ideals of conduct.

Precautions have been taken to reduce danger from fire to a minimum. The buildings are heated by steam and lighted by electricity. Bath rooms, toilet rooms and lavatories are on each floor. In addition, each room is provided with a large closet, and a stationary washstand with hot and cold water.

Each room is provided with two single cots or beds, mattresses, two straight chairs, study table, dresser with mirror, rug and window shades. Bedding, including pillows, towels and other articles, must be provided by the students. Each girl should provide herself with a mattress pad, two pairs of

pillow cases, three sheets, two pairs of blankets, napkin ring, six towels and a clothes bag.

The cost of rooms in the halls for each occupant, two in a room, is \$15.00 for the term of three months, or \$25.00 for the school of agriculture term. This fee includes both light and heat. The room rent is payable in advance. The occupants are expected to take care of their own rooms.

A student desiring a room reserved must forward \$5.00 with her application. This will apply on the regular room rent for the term. In no case will this advanced payment be refunded after September first.

The Vocational Men's Dormitory.—The cost of room for each occupant two in a room, is \$18 per term (\$1.50 per week). There are several suites of two rooms in the building which are suitable for light housekeeping. These will be rented to married couples at \$60 per term (\$20 per month of four weeks) for each suite with no bedding furnished or care of rooms. All men furnish their own towels and soap.

If any vacant rooms remain after the vocational men are all provided for they will be rented to other men students at the same rates excepting that bedding (sheets, pillow slips and blankets) will not be furnished or laundered. It will always be distinctly understood that any such student must vacate rooms, if need be, in favor of vocational men.

The College Dining Hall.—In connection with the ladies' dormitories, a large dining hall and a cafeteria are conducted, not only for the young women who room in the buildings, but also for other students, both young women and men, who room elsewhere. The cost of board is thus reduced to a minimum.

During the past year table board has been \$5.00 a week. The cafeteria arrangement permits a wider selection of food at a reasonable rate. Owing to the unsettled conditions at the present time it is impossible to state what the cost of board will be during the next year. However, the dining hall will be conducted so as to provide wholesome fare at minimum cost.

Payment for board in the dining hall must be made for four weeks in advance, and no reduction will be made for less than one weeks absence, or a refund for less than one week.

Student Labor.—There is a limited amount of paid labor about the institution which can be done by students and it is the policy of the college authorities to give as much work to deserving students as is consistent with the best interests of all. However, no one should expect to earn his entire expenses while at college.

ADMISSION

General Requirements.—Candidates for admission to any department of the College must be at least fourteen years of age (sixteen for admission to the tractor and auto-mechanics course), and of good moral character.

Students who are unable to present sufficient credits for high school work to enter the freshman class of the college courses may take entrance examinations during the time set apart for registration at the beginning of each term.

The completion of the eighth grade is required of those who enter the school of agriculture. To enter the tractor and auto-mechanics course and the three-month dairy course a reasonable knowledge of the English language is necessary.

Entrance Credits.—The four-year accredited high school course is the standard of entrance to the collegiate courses, and the graduate of such a high school course will be admitted to full freshman standing upon presenting a certificate from the principal, superintendent or other official of his high school specifying the subjects and the credits in each included in his course of study. Application blanks for this purpose are furnished by the College. However, if the student has not had all the subjects specified for entrance to the collegiate course he is entering, (see list of prescribed entrance units on the following pages), he must make up this deficiency. He will not be allowed to count this credit on any course of study which requires it for entrance.

A candidate for entrance to the freshman class who is not a graduate of an accredited four-year high school course must present fifteen units of entrance credit. A unit is a subject

which is taught five times a week thruout the year, or the equivalent of this work. Of the fifteen units required for entrance some are prescribed, the remainder being optional.

The list of prescribed and optional subjects is as follows:

Prescribed Units

English, three units in advance of grammar. These should consist of composition work and a study of some of the simpler American and English classics.

Algebra, one and one-half units for engineering students, one unit for others. The fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and the analysis and solutions of problems involving these principles.

Plane Geometry, one unit. The completion of plane geometry. Special emphasis should be paid to the solutions of original problems and constructions. Students of engineering who have not completed solid geometry in the high school will be required to take the subject in the freshman year of the college course.

History, one and one-half units. This work should follow, and not include, elementary United States history, and should be a connected study of some of the following lines: ancient, medieval, modern, English, and American history.

Civics, one-half unit. A study of the constitutions of the United States and of the State, as presented in the best high schools.

While foreign language is not required for entrance to the college courses, it is very desirable that students have two years work in German, French, Spanish, or Latin in preparation for their college work. Credits for less than one year of foreign language will not be accepted for entrance unless the student continues the subject in the College until the unit is completed.

Optional Units

The remaining units, which are optional, may be offered in the same lines of work as the prescribed units and in other

departments. The work for which credit is given must be of reasonably high grade, and a reasonable amount in each subject must have been covered. Not more than four units will be accepted in vocational subjects. This rule does not apply to graduates of an accredited high school of four years, who, as already stated, are admitted to full freshman standing.

Advanced College Credit.—Advanced credit in the College may be obtained by presenting certified grades from other institutions of reputable standing or by examination. The College reserves the right, however, to cancel grades accepted from other schools should the student be found deficient in the subjects for which he has received credit. A student entering with advanced credit may use these as electives in the various college courses, as far as these courses permit. Reasonable substitutions of additional credits for prescribed work are also allowed. Applicants for admission to the collegiate courses are strongly urged to submit their entrance and advanced credits by mail before the opening of the college year and thus facilitate the work of registration. The College will furnish such persons with application blanks, which, after being filled out with certified standings and other information, should be returned to the Registrar.

SCHOLARSHIP AND REGISTRATION REQUIREMENTS

The Unit of Credit.—A credit or credit hour is the measure of the work done in carrying a subject for one term with one recitation a week or its equivalent. In work of college rank a recitation is intended to be accompanied by one and one-half to two hours of preparation. Three hours in the laboratory where no outside work is required are counted as one credit.

In preparatory or other secondary work the student is expected to spend at least one hour in preparation for a recitation, and two hours of laboratory work without additional outside work count as one credit.

Grades and Grade Points.—The work of students is graded by means of letters to each of which is assigned a certain value in grade points.

M (Medium) means that the student's work is of medium or average grade.

S (Superior) means that the work is above the average but not as high as

E (Excellent), meaning that the work is so far above the average as to merit special mention.

I (Inferior) means that the work is below the average, but not as low as

P (Passed), meaning that the student has only a sufficient knowledge of the subject as to make it unprofitable for him to repeat the subject.

C (Conditioned) means that the work of the student has not been satisfactory, but that it may be brought up to a passing grade without being repeated in the class, provided this is done according to the rules prescribed below.

D (Deferred) means that the student's work has been qualitatively satisfactory, but that for some reason beyond his control, part of the subject has not been completed.

F (Failed) means that the work of the student has been so poor that he should repeat the subject with the regular class in order to secure a passing grade.

Each instructor reports a grade for every student of his classes by means of the letters M, S, E, I, P, F, C and D and also makes an auxiliary report to the Registrar, giving information as to why the grades C and D are assigned.

The grades M, S, E, I, P, and F, after having been reported to the Registrar, may not be changed except by faculty action.

The marks C and D may be changed according to the following rules.

The Removal of C and D Marks.—The work for which C or D has been received may be made up in one of two ways:

First, by repeating the work with a regular class.

Second, by making up the deficient work outside of the regular class, provided suitable arrangements to do so can be

made with the department concerned. This may necessitate taking work under a tutor under the supervision of the department. Whenever work is made up in this manner, the approval of the class adviser should be secured when the student registers for the term. After the completion of the deficient work the student should secure a statement from the instructor in charge of the work on a card provided for this purpose which, after being approved by the class adviser, is to be presented to the Registrar in order that the new grade may be entered on the books. The mark C or D, however, shall remain on the books of the institution as a part of the student's record.

The mark C cannot be converted into a grade higher than P unless the subject is repeated with the class. This does not apply to the mark D.

If work for which C or D has been received is not made up in the second manner within one year after the subject was taken up with the regular class, the student must repeat it in class in order to secure a grade.

A subject in which F has been received must be repeated the next time it is regularly offered, provided it is prescribed in the course of study the student is following.

Grade Points.—Grade points are assigned to the letters for each credit as follows:

E — 1.2 grade points.

S — 1.1 grade points.

M — 1 grade point.

I — .9 grade points.

P—.8 grade points.

C, D and F — No grade points.

In general, the number of grade points required for graduation in any collegiate course is at least equal to the number of credits required. This requires that the student who does not carry his work at the average grade or higher must complete additional work in order to graduate.

In order to encourage higher scholarship in the College the faculty has adopted the rule that the excess grade points of a student may operate to reduce by an equal number the

credits required for graduation in any of the collegiate courses according to the following restrictions:

1. Not more than an excess of three grade points may be so used during any one year.

2. Excess grade points in limited credit courses (type-writing, music, etc.) may not be used to reduce credits in this way.

3. Except by special faculty action excess grade points shall not be used to reduce credits in prescribed subjects.

Advanced credit from other colleges will be accepted for grade points on the same basis as M, that is, one credit to one grade point.

Registration.—In registering for work the student is advised by a member of the faculty who helps him to make out a consistent schedule of studies. In general he is expected to classify in the normal amount of work in the scheme of study he is pursuing.

The student of college rank will not be allowed to register in more than nineteen credit hours the first term of his attendance, and not more than nineteen hours any subsequent term unless his work during the preceding term is of a high character, and then only by special action of the faculty committee in charge of registration.

Elective Work.—Unless there are statements to the contrary, elective work in the college schemes of study may be chosen from any subjects offered for college credit in the different departments. It is recognized that music, the fine arts, typewriting, and a few other subjects may have a place in a well balanced course of study and the student may present for graduation a limited amount of credit from these lines of work. See index for references to statement concerning "Limited Credit Subjects."

No instructor is required to give an elective subject to fewer than five students.

Military Requirements.—The national law organizing and endowing the state agricultural colleges requires that military science shall form a part of the instruction offered. All men students below the junior year are required to take mili-

tary drill three times a week unless excused because of physical disability or some other reason. Certificates of disability should be obtained from the physician whom the college authorities have designated for such work, the College bearing the expense of the examination.

Under the provisions of the law establishing the Reserve Officers Training Corps in this and other educational institutions, men of the junior and senior classes who have completed the required military work of the freshman and sophomore years may elect military science during the remainder of their course, and thus receive clothing and commutation of army rations from the National Government.

Application has been made to the U. S. Government for commutation of uniforms for the coming school year. If this application is approved by the government a distinctive South Dakota State College uniform of fine quality and good appearance will be purchased by the College and issued to students.

A deposit of about thirty dollars will be required at the beginning of the first year the uniform is issued. Upon the return of the uniform in good condition the amount deposited will be returned. Students will be charged for any undue wear or tear. At the beginning of the second year's wear a deposit will be required of about ten dollars, which will be returned when the uniform is turned in.

Physical Training.—Women students of the freshman and sophomore classes and men students of the freshman class are required to take physical training twice a week throughout the year, unless they are engaged in some other regular physical exercise. Additional physical training may be required of students who need corrective exercises. Personal hygiene, first aid to the injured and similar topics are given in connection with the freshman work in physical training.

Conditioned Students.—Any student who without good reason has failed to receive a passing grade in a reasonable amount of his work will be registered only conditionally for future work. And if any student at any time is not carrying the work in which he is classified at a passing grade, or fails to perform other duties which may be expected of him, he

may be placed upon the conditioned list and thus debarred from certain student privileges, or he may be dropped from the College.

Absences.—The student is held responsible for all absences from classes or other assignments. If he has a good reason for being absent, he should have his absences excused by the proper officer.

Absences from class, even for good reason, such as sickness or official representation on an intercollegiate team, militate against good scholarship. Therefore, if the number of excused absences in a subject passes beyond a reasonable limit (ten percent of the total number of assignments in the subject for the term) a reduction of grade-points or credits will be made in the student's record.

All absences without good reason are offenses against good conduct. Therefore a sharp distinction is made between excused and unexcused absences. A greater reduction will be made in the student's record for the latter than for the former, and continued absence from classes without excuse will result in suspension.

If a student can make suitable arrangements with his instructors, he may make up work that has been missed because of excused absences, in which case the deduction will not be made from his record. This is not always possible, however, and students should understand that their instructors are not under any obligations to make such arrangements.

Work missed because of unexcused absences may not be made up in this manner.

For further details concerning the treatment of absences, see the General Regulations for the Guidance of Faculty and Students, copies of which may be obtained upon application to the Registrar's office.

HONORS AND SCHOLARSHIPS

The Honor Key.—In order to give recognition to students graduating with the degree of bachelor of science who have

throughout their course shown evidence of superior worth, honor keys are awarded according to the following general requirements:

The selection shall be made on the basis of scholarship, character, loyalty and service to the College, and prospects of rendering valuable service to humanity.

Not to exceed one-half of those members of the senior class of the regular four years courses, whose grades rank them as to scholarship in the upper fourth of the class, shall be awarded keys.

All candidates must have done two years of residence work in the College.

Keys shall be awarded to men and women on an equal basis.

The election shall be held in April. The choice shall be made by the heads of departments, a two-thirds majority being necessary for election.

Free Scholarships.—Three kinds of free scholarships are available in the seven state educational institutions under the control of the State Board of Regents of Education according to the law and the rules of the Board of Regents of Education.

Honor Graduates from Accredited High Schools.—To the highest ranking young man and young woman of good moral character, graduating from any accredited four-year high school in South Dakota, shall be awarded free scholarships in the State University, the State College of Agriculture and Mechanic Arts, the State School of Mines, or in any of the State Normal Schools of the State. These scholarships shall afford free tuition and fees, except breakage charges, dormitory rent, and such deposits as may be required for the return of the equipment lent to the student, for any course or courses in these institutions, and shall in no case exceed \$60 in one fiscal year. Scholarships are not transferable from individual to individual, but upon the satisfactory completion of a year's work in one institution, may be transferred to another institution. A student transferring from one institution to another shall take with him the original copy of his scholarship, with his attendance record at the institution he is leaving endorsed

thereon, and certified by the President or Registrar of the institution he is leaving. Scholarships may be withdrawn temporarily or permanently for misdemeanor or for failure or condition in any subject.

Special blanks are provided for students wishing to apply for scholarships.

The acceptance of free scholarship provisions must be filed with the Secretary of the Regents of Education during the calendar year of graduation, otherwise the right will lapse. The scholarship will lapse if not used during the school year following high school graduation unless an extension of time for good and sufficient reasons be granted in advance by the Regents of Education.

If the student leaves one school and does not immediately attend another school, or drops out for more than one calendar year, the scholarship expires. If, however, his course is interrupted by his own illness or by the illness or death of a member of his family, he may continue in the possession of his scholarship, if, after the presentation of his case to the Regents of Education, it seems clear that the interruption to his course of study was unavoidable.

Senatorial and Representative Scholarships.—Each State Senator may issue scholarships to two students and each Representative to one student in any one of the institutions under the control of the Board of Regents of Education. These scholarships exempt the students from the regular tuition fees which amount to twelve dollars for the regular college year. These scholarships expire with the term of office of the Senator or Representative.

Special blanks are provided for students wishing to apply to their Senators or Representatives for these scholarships.

War Veterans.—Free tuition and fees are given by the institutions under the control of the Board of Regents of Education to residents of the State who have performed military service and who have been discharged or released from active service. This includes any person who has performed active war service in nursing or assisting in the care of soldiers or sailors as a member of the Red Cross or any other

similar organization engaged in war relief work which was recognized and approved by the government. Applicants for these scholarships should bring their discharge papers when they enroll.

Graduate Scholarships.—A few scholarships are available for graduates of this or other colleges of equal rank. These pay from \$100 to \$400 and permit the student to carry graduate work toward the degree of Master of Science.

DEGREES AND CERTIFICATES

Degrees for Completion of Under-graduate Courses.—The courses of study leading to degrees given by the College are outlined on pages beginning with page 51, and are as follows:

The four years courses in Agriculture, in which the student has the opportunity of specializing along the lines of animal husbandry, dairy husbandry, agronomy, horticulture and plant pathology, and teacher training. Upon the completion of one of these schemes, under the direction of the head of the department in which the group of electives is chosen, the student will receive the degree of Bachelor of Science in Agriculture.

The courses in Home Economics, each of four years, leading to the degree of Bachelor of Science. These include a general course, and courses in which the student may specialize in food and dietetics, clothing and millinery, or in teacher training work. For details concerning the teacher training work see the department of education.

The four years courses in Mechanical, Electrical and Civil Engineering, leading to the degree of Bachelor of Science in Engineering. See following pages for information concerning professional degrees in Engineering.

The two years course in Pharmacy, leading to the degree of Pharmacy Graduate.

The three years course in Pharmacy leading to the degree of Pharmaceutical Chemist. This course includes the work of the two years course with an additional year's work.

The student who completes either of the two preceding schemes of study may continue his work according to the prescribed plan and complete a four years course in Pharmacy leading to the degree of Bachelor of Science.

The four years course in General Science, leading to the degree of Bachelor of Science. The work of this course is largely elective and is planned to give the student a liberal education, at the same time permitting specialization in the sciences.

The four years course in Commercial Science, leading to the degree of Bachelor of Science.

The Degree of Master of Science.—The degree of Master of Science will be conferred upon graduate students who fulfil the following requirements:

1. The candidate must have received the degree of Bachelor of Science, from the College or from some other institution offering an equivalent course of study, prior to his acceptance as a candidate for the advanced degree. In special cases persons holding a degree other than that of Bachelor of Science may be permitted to qualify as candidates for the advanced degree.

2. He must present credits covering a course of study consisting of one major subject aggregating at least one-half year of collegiate credit, and two minor subjects aggregating at least one-half year of collegiate credit. While pursuing such work he should be in residence at the College not less than one college year. However, work completed at institutions of equivalent requirements may be accepted in partial fulfilment of these requirements by the Committee on Advanced Degrees.

3. The major subject shall be taken only in work offered primarily to graduates.

4. The minor subjects, each covering approximately one-fourth year of collegiate credit, shall not be taken in work offered to freshmen and sophomores. All minor subjects shall be closely allied to the major work. No work done as a teacher shall be credited towards this degree, but at the discretion of the departments concerned the candidate may offer work done

as assistant in the laboratories as minor work, provided, that for no work so offered shall he have received remuneration other than that sought as credit towards this degree.

5. No credits received as an undergraduate shall be accepted for the master's degree.

6. The student who wishes to take up work leading to the master's degree should make application to the Committee on Advanced Degrees, on a special blank provided for this purpose, stating the departments in which he wishes to take his major and minor work. This must be accompanied by a transcript of his undergraduate credits and other data. If the Committee approves his application, with the help of the Committee and of the departments in which he desires to take his work, he shall outline a course of study which he is to pursue.

Credit for a subject may not be counted towards the master's degree unless approved by the Committee before the degree is taken.

7. The major subject must be satisfactorily completed three weeks prior to the conferring of the degree; at this time also there must be presented to the Committee on Advanced Degrees, in complete form, three typewritten copies of a suitable thesis which deals with some original problem related to the major subject, and bears the approval of the head of the department in which the major subject is taken. The thesis shall have the following form: It must be neatly typewritten upon unruled white paper of good quality, 8x11 inches in size and a suitable title-page, printed or typewritten, must be affixed. The pages must have a margin of $1\frac{1}{2}$ inches at the left, for binding, and writing should be on one side of the paper only. When the committee has approved the thesis, two copies shall be deposited with the College Librarian as the property of the institution.

8. Following the committee's acceptance of the thesis and prior to the conferring of the degree, the candidate shall pass a satisfactory written examination upon the subject matter of his thesis and of his major subject, and an oral examination before a special committee appointed by the Committee on Advanced Degrees, to which examination all professors, as-

sociate professors and assistant professors shall be invited. In his minor subjects he may be examined with regular classes or individually by his instructors, at the option of the heads of the departments concerned.

9. All regular class work offered as minors must have been pursued with an average grade of not less than S (Superior), in order to be accepted as credit towards this degree.

10. In case the candidate is an employee of this institution, the minimum time limit during which he must distribute his work shall be two years, unless otherwise determined by the Committee on Advanced Degrees.

11. In special cases the foregoing regulations may be modified by a vote of the faculty.

Professional Degrees in Engineering.—The degree of Civil Engineer (C. E.), Mechanical Engineer (M. E.), or Electrical Engineer (E. E.), may be conferred upon a graduate of this institution who has made a superior record in college and in the practice of his profession, and who in addition has complied with the following regulations:

1. At least three years must have elapsed between the date of his graduation from the College and that of his application for the professional degree.

2. His application for the degree must be accompanied by a detailed statement of his professional experience since his graduation from this institution.

3. Within one year from the date of such application and prior to the conferring of the degree, the candidate must present to the Committee on Advanced Degrees a suitable thesis, covering some phase of his professional practice, and complying with the regulations as prescribed for presentation of thesis for the degree of Master of Science.

Upon approval of his application and thesis by the Committee on Advanced Degrees, he may be recommended to the faculty for the proper professional degree.

Special and Secondary Courses.—The College offers courses in several important and practical lines of work in addition to the courses of study for degrees. These are men-

tioned elsewhere in the bulletin under the proper headings, and are as follows:

The four years course in the secondary school of agriculture. See the School of Agriculture.

The one year course in farm mechanics and auto-tractor work. See Tractor and Auto Mechanics Course.

The three months creamery course. See the Practical Creamery Course.

The summer session, consisting of two six weeks terms. See the Summer School.

Courses in vocal and instrumental music. See Music Department.

Special work in art. See Art Department.

Special work in industrial arts for the training of teachers. See Industrial Arts Department.

The one year secretarial course. See Department of Commerce.

Special work in printing. See Department of Printing.

THE SUMMER SCHOOL

The work of the Summer Session is planned especially for those who desire training along the industrial lines—agriculture, manual training, home economics, instructional, vocational and allied subjects—either to secure college credits or to prepare for teaching. Advanced and review work will be offered.

The vocational field offers excellent opportunities to teachers, the demand far exceeding the supply. The College is primarily a vocational institution and one of its principal functions is to train teachers along vocational lines, its shops, laboratories, experimental plots, and live stock being available for this purpose.

In addition to members of the regular college staff, a number of special instructors and lecturers are employed during the session.

The tuition is \$5.00 for each term of six weeks, small additional fees being charged in laboratory subjects to pay for material that is used.

Good rooms may be secured by men students in the city at reasonable rates, and by women students in the college dormitories. A dining hall is conducted in connection with the dormitories for both men and women, board being furnished practically at cost.

The first term of the Summer Session of 1922 will begin June 13 and close July 21; the second term will begin July 24 and close August 31.

Work will be given along the following lines:

Agriculture—Elementary agriculture, stock judging, farm dairying, soils and crops, poultry culture, and special work for those interested in teaching agriculture in the common schools.

Home Economics—Cookery, serving, practice cottage, sewing, dressmaking, handwork, and drawing.

Mechanic Arts—Woodworking, joinery and cabinet construction, finishing, mechanical drawing, auto repairing, and special courses for rural school teachers.

Commercial Branches—Bookkeeping, shorthand, type-writing, penmanship, and business law.

Education—Educational psychology, history of education, principles of teaching, general vocational education, agricultural education.

Social Sciences—Rural sociology, agricultural economics, industrial history of the United States.

The Sciences—Chemistry, physics, nature study, organic evolution, sanitation, physiology.

English—Rhetoric, English literature, American literature.

Special Work for Rural Teachers—Primary methods, grammar, history, civics, geography, algebra, geometry.

For further information write for special Summer School Bulletin, addressing the Registrar, State College, Brookings, South Dakota.

THE AGRICULTURAL EXPERIMENT STATION

Under the provisions of the Hatch Act of March 2, 1887, and the Adams Act of March 20, 1906, the state receives annually \$30,000 from the treasury of the United States for the maintenance of an experiment station. By an act of the legislature this institution was made a part of the South Dakota State College. Its object is to investigate along agricultural lines, publish the results in bulletin form and distribute them to the residents of the state for their information and benefit. It consists of five divisions, namely: agronomy, animal husbandry, dairy husbandry, entomology, and horticulture.

Each of these divisions is in charge of an expert who is also professor of the same subject in the College.

About sixty acres of the college farm are set aside for experiments in crop rotation and testing varieties of grains.

Another tract of sixty acres is utilized for experiments along horticultural lines, where trees, shrubs and vines are grown in profusion. Adaptation of grains, grasses, forage plants, fruits, trees, shrubs and vegetables for the Northwest is being carried on in co-operation with the United States Department of Agriculture and as a result many valuable varieties have been introduced which probably would not otherwise have reached us.

Each division is provided by the state with the proper facilities to conduct investigations, and at least four bulletins are published annually, which are free to residents of the state. Inquiries pertaining to the various agricultural interests are answered promptly. The regular mailing list of the station numbers over 22,000 names.

All communications to this department should be addressed to the Director, Agricultural Experiment Station, Brookings, South Dakota.

THE AGRICULTURAL EXTENSION DIVISION

In 1914 Congress passed the Smith-Lever Act, appropriating a sum of money to the various states in which Agri-

cultural Extension Work including home economics should be established. The state of South Dakota in its last legislative session appropriated sufficient funds to meet the requirements of the Federal Act. In addition it appropriated \$51,000 for County Farm Bureau work for the biennial period. Activities are carried on under the project plan as follows:

1. Administration.
2. County Agent Work.
3. Short Courses.
4. Boys' and Girls' Club Work.
5. Home Demonstration Work.
6. Dairying.
7. Farm Management.
8. Livestock Improvement.
9. Agricultural Engineering.
10. Horticulture.
11. Animal Diseases.
12. Agronomy.
13. Entomology.
14. Poultry.
15. Clothing.
16. Foods.

Any county in the state may secure the benefits of Federal and State appropriations in the following manner: It shall be lawful for 50 or more freeholders residing in at least one-third of the congressional townships of the county to organize and incorporate a County Farm Bureau. The members of the association shall pay a membership fee of one dollar and shall file articles of incorporation with the Secretary of State, and elect a Board of Directors. The directors may secure an appropriation from the County Board of Commissioners which may be deposited with the Treasurer of State and be augmented from the state funds by 60 per cent of the amount deposited. The county is then in a position to ask for Federal assistance.

The state law provides for the conducting of demonstration courses in Agriculture and Home Economics in all counties not employing a county agent. This work is under the

immediate supervision of the Short Course Leader and is conducted during the late fall and winter months. It takes the place of Farmers' Institutes of former years.

Boys' and Girls' Club Work is carried on in co-operation with the county superintendents of schools and through the County Farm Bureaus. This work is in charge of a State Club Leader. It consists in the organization of boys and girls between the ages of 10 and 18 years into clubs for the purpose of growing corn, economical pig raising, gardening and canning, bread and garment making, etc.

The federal emergency appropriation ceased July 1st, 1919, and most of the counties organized under the Emergency Act have continued as permanent counties under our State law.

Some counties maintain, in addition to the county agent, a home demonstration agent or boys' and girls' club leader.

Communications to this division should be addressed to the Director of Extension, State College, Brookings, South Dakota.

Plans of the Collegiate Courses of Study

On the following pages are outlined the courses of study leading to degrees.

The four years courses in Agriculture.

The four years courses in Home Economics.

The four years courses in Engineering.

The four years course in Pharmacy.

The three years course in Pharmacy.

The two years course in Pharmacy.

The four years course in Commercial Science.

The four years course in General Science.

For entrance to these courses the student should have completed a four years course in an accredited high school or present fifteen units of entrance credit as indicated under "Entrance Requirements."

Junior and senior electives must be approved by the head of the department in which the student is specializing.

THE FOUR YEARS AGRICULTURAL COURSES

As indicated in the scheme outlined below, the freshman and sophomore years and certain subjects of the junior and senior years are prescribed for all agricultural courses. At the beginning of the junior year, the student is expected to select one of the following groups: Agricultural Education, Agronomy, Animal Husbandry, Dairy Husbandry, and Horticulture.

Upon the completion of the prescribed subjects and additional elective work to make 204 term credits, with 204 grade points, the student may receive the degree of Bachelor of Science in Agriculture.

Agricultural Courses

Freshman Year

	Fall	Winter	Spring
Inorganic Chemistry, Chemistry 1a, 1b, 1c ---	3	3	3
Rhetoric, English 1a, 1b, 1c -----	3	3	3
Stock Judging, Animal Husbandry 1a, 1b, 1c ---	2	2	2
Grain and Root Crops, Agronomy 1a, 1b -----		3	3
General Horticulture, Horticulture 1a, -----	2		
Agricultural Botany, Botany 1a, 1b, 1c -----	3	3	3
College Physics,* 2a, 2b, 2c, or elective -----	3	3	3
Military Drill, Military 1a, 1b, 1c -----	1½	1½	1½
Physical Training and Hygiene -----	½	½	½
	18	19	19

Sophomore Year

Organic Chemistry, Chemistry 2 -----	5		
Quantitative Analysis, Chemistry 3 -----		3	
General Principles Poultry Culture, Poultry Culture 1 -----	3		
General Horticulture, Horticulture 1b -----			2
Agricultural Entomology, Entomology 20a, 20b, -----		3	3
General Bacteriology, Bacteriology 1 -----		4	
General Zoology, Zoology 1a, 1b -----	3	3	
Live Stock Management, Animal Husbandry 6 -----			2
Veterinary Anatomy, Veterinary 1 -----			3
Survey of English Literature, English 7a, 7b, 7c, or -----			

*Physics will be required of students of the course who have not presented elementary physics for entrance.

Survey of American Literature, English			
6a, 6b, 6c -----	2	2	2
Extempore Speaking, English 20a, 20b, 20c -----	1	1	1
Farm Dairying, Dairy Husbandry 1a, 1b -----	3		3
Military Drill, Military Science 2a, 2b, 2c -----	1½	1½	1½
	<hr/>	<hr/>	<hr/>
	18½	17½	17½

AGRICULTURAL EDUCATION GROUP

NOTE: This group prepares for certificates to teach agriculture in agricultural departments in high schools complying with state and federal requirements for financial aid under the Smith-Hughes law.

Junior Year

	Fall	Winter	Spring
Soils, 9a, 9b, 9c, -----	4	4	4
Industrial History, 3a, 3b, -----		3	3
Heredity, Botany 8 -----	3		
Vocational Education, Education 36 -----	3		
Elementary Educational Psychology, Education 32		4	
Principles and Methods of Teaching,			
Education 33 -----			4
Farm Wood Working and Forging, Industrial			
Art 5 and Mechanical Engineering 1a -----		2	2
Elective -----	7	4	4
	<hr/>	<hr/>	<hr/>
	17	17	17

Senior Year

Economics, History 21 -----	4		
Agricultural Publicity, Agricultural			
Journalism 1 -----		2	
Animal Nutrition, Animal Husbandry 4 -----	3		
Special Methods in Vocational Agriculture,			
Education 49A -----		4	
*Practice Teaching Agriculture,			
Education PTA49 -----			4
Elective in Education -----		4	
Farm Shop Work, Industrial Art 6 -----			2
Motors and Farm Machinery -----			3
Elective -----	10	7	8
	<hr/>	<hr/>	<hr/>
	17	17	17

Electives in this group should be chosen from the following and along two or more lines:

1st Group—

Educational Administration, Education 43 -----	4
Educational Sociology, Education 45 -----	3
Rural Education, Education 25 -----	3
The Organization and Administration of Secondary Education,	
Education 34 -----	3

*Practice teaching and electives in education any term.

Special Problems in Agricultural Education, Education 44	-----	2-4
Vocational Education, Education 36	-----	3
Industrial Education, Education 48	-----	3
Educational Measurements, Education 42	-----	3
Genetic Psychology, Education 35	-----	2
Social Psychology, Education 45	-----	2
Educational Seminar, Education 51	-----	2-4
2nd Group—		
Non-Contagious Diseases, Veterinary 4	-----	2
Advanced Stock Judging, Animal Husbandry 2	-----	3
Live-Stock Production, Animal Husbandry 8a, 8b, 8c, 8d	-----	9
Contagious Diseases, Veterinary 5	-----	4
3rd Group—		
Crop Breeding, Agronomy 2a, 2b	-----	6
Seed Inspection, Agronomy 5	-----	3
Field Management, Agronomy 3	-----	3
4th Group—		
Landscape Gardening, Horticulture 8	-----	3
Farm Forestry, Horticulture 2	-----	2
5th Group—		
Rural Sociology, History 32	-----	4
Agricultural Economics, History 22	-----	4

AGRONOMY GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c	4	4	4
Industrial History, History 3a, 3b		3	3
Heredity, Botany 8	3		
Crop Breeding, Agronomy 2a, 2b		3	3
Seed Inspection, Agronomy 5	3		
Elective	7	7	7
	17	17	17

Senior Year

Economics, History 21	4		
Geology, Agronomy 14	5		
Forage Crops, Agronomy 4			3
Animal Nutrition, Animal Husbandry 4	3		
Meteorology, Agronomy 15		4	
Elective	5	13	14
	17	17	17

ANIMAL HUSBANDRY GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c	4	4	4
Industrial History, History 3a, 3b		3	3
Animal Nutrition, Animal Husbandry 4	3		

Veterinary Physiology, Veterinary 2 -----	3		
Veterinary Pathology, Veterinary 3 -----		2	
Swine Production, Animal Husbandry 8b -----		3	
Horse Production, Animal Husbandry 8a -----		3	
Beef Cattle Production, Animal Husbandry 8c-----			3
Elective -----	7	2	7
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Economics, History 21 -----	4		
Heredity, Botany 8 -----	3		
Applied Embryology, Veterinary 6 -----	1		
Advanced Stock Judging, Animal Husbandry 2	3		
Sheep Production, Animal Husbandry 8d -----	3		
Animal Breeding, Animal Husbandry 3 -----		3	
Live Stock History, Animal Husbandry 7 -----			4
Contagious Diseases, Veterinary 5 -----		4	
Elective -----	3	10	13
	<hr/> 17	<hr/> 17	<hr/> 17

DAIRY HUSBANDRY GROUP

Junior Year

Soils, Agronomy 9a, 9b, 9c -----	4	4	4
Industrial History, History 3a, 3b -----		3	3
Animal Nutrition, Animal Husbandry 4 -----	3		
Dairy Bacteriology, Dairy Husbandry 3 -----		4	
Dairy Management, Dairy Husbandry 6 -----			3
A choice of one of the two following groups is to be made. The same line of work must be fol- lowed in the senior year.			

Dairy Production

Veterinary Pathology, Veterinary 3 -----		2	
Veterinary Physiology, Veterinary 2 -----	3		
Elective -----	7	4	7

Dairy Manufactures

Dairy Inspection, Dairy Husbandry 2 -----	5		
Manufacture of Cheese, Dairy Husbandry 5			
or			
Dairy Technology, Dairy Husbandry 7 -----	5		
Manufacture of Butter, Dairy Husbandry 4 -----			5
Elective -----		6	2
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

	Fall	Winter	Spring
Economics, History 21 -----	4		

Dairy Seminar, Dairy Husbandry 14 ----- 2
 One of the two following groups must be taken
 depending on the line of work selected in the
 junior year.

Dairy Production

Heredity, Botany 8 -----	3		
Animal Breeding, Animal Husbandry 3 -----		3	
Contagious Diseases, Veterinary 5 -----		4	
Dairy Cattle Feeding, Dairy Husbandry 15 ---	3		
Applied Embryology, Veterinary 6 -----	1		
Advanced Study of the Dairy Breeds, Dairy Husbandry 16 -----		3	
Elective -----	6	7	15

Dairy Manufactures

Manufacture of Cheese, Dairy Husbandry 5 or			
Dairy Technology, Dairy Husbandry 7 -----	5		
Advanced Dairy Inspection, Dairy Husbandry 11		4	
Management of Dairy Plants, Dairy Husbandry 17			3
Business Law, Commerce 2 -----	3		
Business Organization and Control, Commerce 3		3	
Creamery Accounting, Commerce 12 -----			2
Elective -----	5	10	10
	17	17	17

HORTICULTURAL GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c -----	4	4	4
Heredity, Botany 8 -----	3		
Industrial History, History 3a, 3b -----		3	3
Farm Forestry, Horticulture 2 -----	2		
Landscape Gardening, Horticulture 8 -----	2		
Plant Physiology, Botany 3 -----			3
Plant Diseases, Botany 4 -----		3	
Tree Fruit Culture, Horticulture 3a, 3b -----	2		2
Elective -----	4	7	5
	17	17	17

Senior Year

Economics, History 21 -----	4		
Orchard Entomology, Entomology 22 -----			3
Garden Entomology, Entomology 23 -----		3	
Agricultural Publicity, Agricultural Journalism 1		2	
Agricultural Economics, History 22 -----		4	
Marketing and Co-operation, History 23 -----			3
Plant Breeding, Horticulture 6 -----			2

Small Fruit Culture, Horticulture 5 -----			2
Systematic Pomology, Horticulture 4 -----	2		
Home Vegetable Gardening, Horticulture 10 --			2
Nursery Practice, Horticulture 7a, 7b -----	2		2
Plant Materials, Horticulture 17 -----			2
Horticultural Problems, Horticulture 15 -----	1	1	1
Elective -----	8	7	
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	17	17	17

Alternate I. Those who specialize in Market Gardening should substitute Vegetable Forcing (Horticulture 11) and Commercial Vegetable Gardening (Horticulture 12) for Nursery Practice (Horticulture 7a 7b) and Home Vegetable Gardening (Horticulture 10).

Alternate II. Those who specialize in Landscape Gardening should substitute Landscape Design (Horticulture 14a, 14b, 14c) for Systematic Pomology (Horticulture 4), Small Fruit Culture (Horticulture 5), Home Vegetable Gardening (Horticulture 10), and Marketing and Co-operation (History 23).

THE FOUR YEARS COURSES IN HOME ECONOMICS

These courses are designed to permit students to obtain a broad general training in home economics or to specialize along one of the three lines, foods and dietetics, clothing and millinery, and teacher training work in home economics.

As indicated in the schemes outlined, the subjects of the freshman and sophomore years, and certain subjects of the junior and senior years are the same for all. At the beginning of the junior year the student is expected to select one of the four groups mentioned. Upon the completion of the prescribed work and sufficient elective work in addition to make 204 term credits, with 204 grade points, the degree of Bachelor of Science may be received.

Home Economics Courses

Freshman Year

	Fall	Winter	Spring
Rhetoric, English 1a, 1b, 1c -----	3	3	3
Inorganic Chemistry, Chemistry 1a, 1b, 1c ----	3	3	3
Design, Art 2a, 2b, 2c -----	2	2	2

Food Preparation and Marketing,			
Home Economics 1a, 1b -----	4	4	
Household Physics, Physics 3 -----			4
Elementary Sewing, Home Economics 9a, 9b --	3		3
Textiles and Laundry, Home Economics 10 ----		4	
Freshman Lectures -----	$\frac{1}{2}$	$\frac{1}{2}$	
Physical Education 1a, 1b, 1c -----	1	1	1
	<hr/>	<hr/>	<hr/>
	16 $\frac{1}{2}$	17 $\frac{1}{2}$	16

Sophomore Year

Survey of English Literature, English			
7a, 7b, 7c or			
Survey of American Literature, English			
6a, 6b, 6c -----	2	2	2
Zoology and Physiology, 1a, 1b, 7 -----	3	3	3
Organic Chemistry, Chemistry 2 -----	5		
Chemistry of Nutrition, Chemistry 6 -----		4	
General Bacteriology, Bacteriology 1 -----	4		
Food Preparation, Home Economics 2a, 2b ----		4	3
Dressmaking, Home Economics 11 -----			4
Extempore Speaking, English 20a, 20b, 20c ----	1	1	1
Physical Education 2a, 2b, 2c -----	1	1	1
Home Nursing, Home Economics 8 -----			3
Elective -----	1	2	
	<hr/>	<hr/>	<hr/>
	17	17	17

GENERAL GROUP

Junior Year

	Fall	Winter	Spring
Elementary Educational Psychology, Education 32		4	
Dietetics, Home Economics 5a, 5b -----		4	4
Dressmaking, Home Economics 12 -----	3		
Physiological Chemistry, Chemistry 14 -----			4
Design and Composition, Art 3a,			
or			
Applied Design, Art 4 -----	2		
House Decoration, Art 3b -----		2	
Costume Design, Art 3c,			
or			
Applied Design, Art 4 -----			2
Household Management, Home Economics 15a--	3		
Modern History, History 1a, 1b, 1c -----	3	3	3
Elective -----	6	4	4
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	17	17	17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	

PLANS OF STUDY

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Rural Sociology, History 32 -----			4
Home Equipment, Home Economics 15b, 15c ---		3	3
Millinery, Home Economics 14a -----		4	
*Practice Cottage, Home Economics 16 -----	6		
Elective in Home Economics -----		4	
Demonstration work in Home Economics, Home Economics 7 -----			4
Elective -----	7	2	6
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	17	17	17

CLOTHING AND MILLINERY GROUP

Junior Year

	Fall	Winter	Spring
Elementary Educational Psychology, Education 32		4	
Design and Composition, Art 3a, or Applied Design, Art 4 -----	2		
House Decoration, Art 3b -----		2	
Costume Design, Art 3c -----			2
Physiological Chemistry, Chemistry 14-----			4
Dressmaking, Home Economics 12 -----	3		
Dietetics, Home Economics 5a, 5b -----		4	4
Modern History, History 1a, 1b, 1c -----	3	3	3
Household Management, Home Economics 15a--	3		
Elective -----	6	4	4
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	17	17	17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Home Equipment, Home Economics 15b, 15c -----		3	3
Millinery, Home Economics 14a -----		4	
Practice Cottage, Home Economics 16 -----	6		
Elective in Clothing -----			3 or 4
Elective -----	7	6	11or10
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	17	17	17

FOOD AND DIETETICS GROUP

Junior Year

Elementary Educational Psychology, Education 1		4	
Drafting and Dressmaking, Home Economics 12	3		
Dietetics, Home Economics 5a, 5b -----		4	4
Design and Composition, Art 3a, or Applied Design, Art 4 -----	2		
House Decoration, Art 3b -----		2	

Costume Design, Art 3c,

or

Applied Design, Art 4 -----			2
Modern History, History 1a, 1b, 1c -----	3	3	3
Physiological Chemistry, Chemistry 14 -----			4
Household Management, Home Economics 15a--	3		
Elective -----	6	4	4
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Home Equipment, Home Economics 15b, 15c ---		3	3
Institutional Management, Home Economics 17--			5
*Practice Cottage, Home Economics 16 -----	6		
Demonstration Work in Home Economics,			
Home Economics 7 -----			4
Elective -----	7	10	5
	<hr/> 17	<hr/> 17	<hr/> 17

HOME ECONOMICS EDUCATION GROUP

Junior Year

	Fall	Winter	Spring
Principles of Education, Education 31 -----	4		
Elementary Educational Psychology, Education 32		4	
Principles & Methods of teaching in H.S., Ed. 33			4
Physiological Chemistry, Chemistry 14 -----			4
Design and Composition, Art 3a,			
or			
Applied Design, Art 4 -----	2		
House Decoration, Art 3b -----		2	
Costume Design, Art 3c,			
or			
Applied Design, Art 4 -----			2
Dietetics, Home Economics 5a, 5b -----		4	4
Dressmaking, Home Economics 12 -----	3		
Modern History, History 1a, 1b, 1c -----	3	3	3
Household Management, Home Economics 15a --	3		
*Elective -----	2	4	
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Home Equipment, Home Economics 15b, 15c ---		3	3
**Practice Teaching, Education 9			
Home Economics Elective -----			4

Special Methods Teaching Home Economics, Education 7a, 7b -----	3	3	
Demonstration Work in Home Economics, Home Economics 7 -----			4
Millinery, Home Economics 14a, 14b -----		4	4
**Practice Cottage, Home Economics 16			
*Elective -----	10	3	2
	<hr/> 17	<hr/> 17	<hr/> 17

THE FOUR YEARS COURSES IN ENGINEERING

The College offers courses in Mechanical, Civil and Electrical Engineering. As indicated below, the work of the freshman and sophomore years is the same for all three of these courses, with the exception that in the sophomore year students of Civil Engineering take topographical surveying instead of machine shop which is required of students of Mechanical and Electrical Engineering.

The course in Civil Engineering gives an option in the senior year which permits students to prepare themselves for work in highway engineering, in which there are now many opportunities for trained civil engineers.

Upon the completion of the prescribed subjects and additional elective work to make 204 term credits, with 204 grade points, the student may receive the degree of Bachelor of Science.

Engineering Courses

Freshman Year

	Fall	Winter	Spring
Inorganic Chemistry, Chemistry 1a, 1b, 1c -----	3	3	3
Rhetoric, English 1a, 1b, 1c -----	3	3	3
College Algebra, Mathematics 2 -----	5		
Trigonometry, Mathematics 3 -----		5	
Analytic Geometry, Mathematics 4 -----			5
Engineering Drawing, Mechanical Engi- neering 3a, 3b -----	3	2	
Forging, Mechanical Engineering 1a -----	2		
Machine Shop, Mechanical Engineering 2a ----		3	

*To comply with the requirement for the Smith-Hughes certificate in Home Economics, a subject in Education must be elected some time during the course.

**Practice Teaching, 3 credits, must be taken some time during the senior year.
Practice Cottage, 6 credits, must be taken some time during the junior or senior year.

Descriptive Geometry, Mechanical Engineering 5			2
Plane Surveying, Civil Engineering 1 -----			3
Military Drill, Military Science 1a, 1b, 1c -----	1½	1½	1½
Physical Training and Hygiene -----	¾	¾	¾
	18	18	18
Calculus, Mathematics 5a, 5b -----	5	5	
Analytic Mechanics, Mathematics 6 -----			5
General Physics, Physics 1a, 1b, 1c -----	4	4	4
Survey English Literature, English 7a, 7b, 7c, or			
Survey American Literature, 6a, 6b, 6c, -----	2	2	2
Extempore Speaking, English 20a, 20b, 20c -----	1	1	1
Applied Electricity, Elec. Engineering 1a, 1b ---	1	1	
Machine Shop (Mechanical Engineering and Electrical Engineering students), Me- chanical Engineering 2b, or			
Topographical Surveying (Civil Engineering students), Civil Engineering 2 -----	3		
Machine Design, Mechanical Engineering 6 ----		3	
Elements of Mechanism, Mechanical Engi- neering 7 -----			4
Military Drill, Military Science 2a, 2b, 2c -----	1½	1½	1½
	17½	17½	17½

CIVIL ENGINEERING

Junior Year

	Fall	Winter	Spring
Hydraulics, Civil Engineering 4 -----	4		
Water Supply, Civil Engineering 13 or			
Roads and Pavements, Civil Engineering 12	3		
Electrical Machinery, Electrical Engineering 3a_	5		
Steam Engines and Thermodynamics, Mechanical Engineering 9a, 9b -----	3	3	
Railroad Surveying, Civil Engineering 7 or			
Sewerage, Civil Engineering 14 -----		3	
Theory of Structures, Civil Engineering 5 ----		3	
Mechanics of Materials, Civil Engineering 6a, 6b		3	3
Industrial History, History 3a, 3b -----		3	3
Railroad Surveying, Civil Engineering 18 or			
Irrigation Engineering, Civil Engineering 15 ---			2
Elements of Design of Structures, Civil Eng. 8			3
Drainage Engineering, Civil Engineering 21 or			
Contracts and Specifications, Civil Eng. 22			1

PLANS OF STUDY

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Bacteriology, Zoology 4 -----			4
Elective -----	2	2	1
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

	Fall	Winter	Spring
Masonry and Reinforced Concrete, Civil Engineering 9 -----	3		
Water Supply, Civil Engineering 13 or Roads and Pavements, Civil Engineering 12	3		
Economics, History 21 -----	4		
Bridge Design, Civil Engineering 11a -----	3		
Engineering Laboratory, Mechanical Engineering 12a, 12b, 12c -----	2	2	2
Railroad Surveying, Civil Engineering 7 or Sewerage, Civil Engineering 14 -----		3	
Reinforced Concrete, Civil Engineering 10 -----		3	
Geology, Agronomy 14 -----		5	
Railroad Surveying, Civil Engineering 18 or Irrigation Engineering, Civil Engineering 15--			2
Structural Steel Design, Civil Engineering 19--			3
Heating and Ventilation, Mechanical Engineering 14 -----			3
Drainage Engineering, Civil Engineering 21 or Contracts and Specifications, Civil Engineering 22 -----			1
Elective -----	2	2	4

A choice of one of the following groups is to be made.

GROUP A

Bridge Design, Civil Engineering 11b -----	2	
Higher Structures, Civil Engineering 20 -----		2

GROUP B

Highway Engineering, Civil Engineering 16 ---	2	
Highway Engineering, Civil Engineering 17 ---		2
	<hr/> 17	<hr/> 17

ELECTRICAL ENGINEERING

Junior Year

Electricity and Magnetism, Electrical Engineering 3 -----	5	
Dynamos and Motors, Electrical Engineering 4		5
Alternating Currents, Electrical Engineering 5		5

Machine Design and Kinematics, Mechanical Engineering 8 -----	3		
Mechanics of Materials, Civil Engineering 6a, 6b		3	3
Steam Engines and Thermodynamics, Mechanical Engineering 9a, 9b-----	3	3	
Steam Boilers, Mechanical Engineering 10-----			3
Hydraulics, Civil Engineering 4 -----	4		
Theory of Structures, Civil Engineering 5 -----		3	
Industrial History, History 3a, 3b -----		3	3
Elective -----	2		3

Senior Year

Advanced Alternating Currents, Electrical Engineering 6 -----	5		
Electric Lighting, Electrical Engineering 7 -----		5	
Electric Transmission, Electrical Engineering 8			5
Dynamo Design, Electrical Engineering 9a, 9b--	2	2	2
Power Plant Design, Mechanical Engineering 15			4
Engineering Laboratory, Mechanical Eng. 21--	2	2	2
Masonry and Concrete, Civil Engineering 9 ----	3		
Electrical Problems, Electrical Engineering 10 -		3	
Contracts and Specifications, Civil Engineering 21 -----			1
Economics, History 21 -----	4		
Gas and Oil Engines, Mechanical Engineering 13			2
Elective -----	3	5	1
	17	17	17

MECHANICAL ENGINEERING

Junior Year

	Fall	Winter	Spring
Hydraulics, Civil Engineering 4 -----	4		
Steam Engines and Thermodynamics, Mechanical Engineering 9a, 9b -----	3	3	
Steam Boilers, Mechanical Engineering 10-----			3
Electricity and Magnetism, Electrical Engineering 3 -----	5		
Machine Design and Kinematics, Mechanical Engineering 8 -----	3		
Mechanics of Materials, Mechanical Engineering 6a, 6b -----		3	3
Dynamos and Motors, Electrical Engineering 4--		5	
Theory of Structures, Civil Engineering 5-----		3	
Alternating Currents, Electrical Engineering 5--			5
Elements of Design of Structures, Civil Eng. 8			3
Elective -----	2	3	3
	17	17	17

Senior Year

Masonry and Concrete, Civil Engineering 9 ----	3		
Economics, History 21 -----	4		
Engineering Laboratory, Mechanical Engineering 12a, 12b, 12c -----	2	2	2
Advanced Alternating Currents, Electrical Engineering 6 -----	5		
Reinforced Concrete, Civil Engineering 10 ----		3	
Engineering Design, Mechanical Engineering 11		5	
Electric Lighting, Electrical Engineering 7 ----		5	
Contracts and Specifications, Civil Engineering 21			1
Power Plant Design, Mechanical Engineering 15			4
Heating and Ventilation, Mechanical Engineering 14 -----			3
Gas and Oil Engines, Mechanical Engineering 13			2
Elective -----	3	2	5
	<hr/> 17	<hr/> 17	<hr/> 17

THE PHARMACY COURSES

Three plans of study are offered by the School of Pharmacy as indicated below. Upon the completion of the work of the first two years with 98 grade points, the student may receive the degree of Pharmacy Graduate. After completing the work of the first three years with 150 grade points, the degree of Pharmaceutical Chemist may be received. Upon completing the additional prescribed work of the four years course with sufficient elective work to make 204 term credits together with 204 grade points the student may receive the degree of Bachelor of Science in Pharmacy.

The Two Years Plan of Study

This course is designed to acquaint the student with the terms, practice and ethics of modern pharmacy. It complies with both the state and national requirements and fully prepares the applicant for the state examination.

The Three Years Plan of Study

This course has been especially outlined to meet the ever increasing demands for more widely trained men not only in

the "Art of Compounding," but in the analysis and synthesis of pharmaceuticals, as well as to give the student proper foundations for research problems.

The Four Years Plan of Study

The four years plan of study is a continuation of the three years course and leads to the degree of Bachelor of Science in Pharmacy. It is especially adapted to the student who wishes to become a teacher of pharmacy or to pursue work for the more advanced degrees.

Regulations of the State Board of Pharmacy

Among the regulations of the South Dakota State Board of Pharmacy is the following:

"Hereafter and during the year of 1906, all applicants appearing for registration by examination must present with their application an affidavit showing that they have completed a course of study (or its equivalent) of one year high school work. In 1907, two years; in 1908, three years, and in 1909 the presentation of a high school diploma will be required. These requirements were recommended by the Association in annual meeting at Canton in 1903. It is therefore expedient that all proprietors doing a drug business in this state acquaint their clerks and apprentices with the above rule."

Further recommendations were made by the State Board at a meeting held in Sioux Falls, in January, 1918, which are in substance: "That it shall be deemed expedient for all applicants appearing before the State Board for registration to have had two years of practical experience in a drug store where prescriptions are regularly compounded, together with the Ph. G. degree from a reputable school of pharmacy, or one year of experience and the Ph. C. degree, before said applicant should appear for examination."

In order to harmonize our work with this regulation we require the completion of four years of high school work or

its equivalent. While this is a much higher requirement than most schools demand, the results have justified our judgment, for at present there are but three of our graduates who have taken the state examination who are not registered.

This line of work offers many inducements to young men. The requests of the druggists of the state for our graduates are far in excess of the supply and the pure food and drug laws have opened up a new field for young men who are competent drug and food assayists.

For a detailed description of the subjects offered and information relative to the equipment of the Department of Pharmacy see the description of the department

Below is given a brief outline of the subjects and the credits required for each of the four years.

Pharmacy Course

Freshman Year

Inorganic Chemistry, Chemistry 1a, 1b, 1c-----	3	3	3
Pharmaceutical Latin, Pharmacy 1a, 1b-----	2	2	
Pharmaceutical Botany, Pharmacy 3 -----	5		
Accounting, Commerce 8 -----	2		
Pharmacy Physiology, Zoology 8a, 8b -----	4	3	
Theoretical Pharmacy, Pharmacy 5a, 5b-----		4	3
Practical Pharmacy, Pharmacy 6 -----			2
Pharmacognosy, Pharmacy 4a, 4b -----		4	5
Chemical Problems, Chemistry 5 -----			3
*Military Drill (Men), Military 1a, 1b, 1c-----	1½	1½	1½
Physical Training and Hygiene (Men) -----	2½	2½	2½
	18	18	18

Sophomore Year

Materia Medica, Pharmacy 2a, 2b, 2c -----	5	5	5
Theoretical Pharmacy, Pharmacy 7 -----	4		
Organic Chemistry, Chemistry 2 -----	5		
General Bacteriology, Bacteriology 1 -----			4
Dispensing, Pharmacy 9a -----		4	
Dispensing Laboratory, Pharmacy 9b -----		4	
Practical Pharmacy, Pharmacy 8 -----	3		
Drug Assaying, Pharmacy 11a, 11b -----		4	4
Prescription Practice, Pharmacy 10 -----			4
Military 2a, 2b, 2c (Men)-----	1½	1½	1½
	18½	18½	18½

*Women students are required to take Physical Training 1 credit each term during the freshman and sophomore years and Freshman Lectures ½ credit in each of the fall and winter terms of the freshman year.

	Junior Year	Fall	Winter	Spring
Rhetoric, English 1a, 1b, 1c -----		3	3	3
Advanced Organic Chemistry, Chemistry 7a, 7b, 7c -----		4	4	4
Urine Analysis, Pharmacy 12 -----		4		
Toxicology, Pharmacy 13a, 13b -----			4	4
Elective -----		6	6	6
		<hr/> 17	<hr/> 17	<hr/> 17
	Senior Year			
Survey of American Literature, English 6a, 6b, 6c -----			3	3
or Survey of English Literature 7a, 7b, 7c -----		2	2	2
Modern History, History 1a, 1b, 1c -----		3	2	3
Economics, History 21 -----		4		
Sociology, History 31 -----			4	
Elective -----		8	8	12
		<hr/> 17	<hr/> 17	<hr/> 17

THE FOUR YEARS COURSE IN COMMERCIAL SCIENCE

This course is designed for those who wish to pursue a full college course and at the same time specialize in business subjects. It prepares for business administration or commercial teaching. A one year vocational course is offered for those who must enter business with less preparation than a full college course. See index for reference to this course.

Upon the completion of the prescribed work of the four years course together with enough elective work to make 204 credits, together with 204 grade points, the student may receive the degree of Bachelor of Science in Commerce. A certificate will be given to those who complete the one year course.

Commercial Course

Freshman Year

Accounting I, Commerce 1a, 1b, 1c -----	3	3	3
Rhetoric, English 1a, 1b, 1c -----	3	3	3
Business Law, Commerce 2 -----	3		
Business Organizations, Commerce 3 -----		3	
Money and Banking, Commerce 4 -----			3
Military Drill (Men), Military 1a, 1b, 1c -----	1½	1½	1½
*Physical Training and Hygiene (Men) -----	2½	2½	2½
Elective -----	7	7	7
	<hr/> 18	<hr/> 18	<hr/> 18

The following are recommended as electives in the freshman year:

Mathematics, 1a, 1b, 1c -----	3	3	3
Chemistry 1a, 1b, 1c -----	3	3	3
Spanish, 1a, 1b, 1c, or			
French 1a, 1b, 1c -----	3	3	3
History 2a, 2b, 2c -----	3	3	3
Typewriting 6a, 6b, 6c -----	1 $\frac{2}{3}$	1 $\frac{2}{3}$	1 $\frac{2}{3}$

Sophomore Year

Stenography, Commerce 5a, 6a; 5b, 6b; 5c, 6c or			
Accounting II, Commerce 9a, 9b, 9c -----	7	7	7
Survey of English Literature, English 7a, 7b, 7c			
or Survey of American Literature, English			
6a, 6b, 6c -----	2	2	2
Extempore Speaking, English 20a, 20b, 20c-----	1	1	1
Industrial History, History 3a, 3b -----		3	3
*Military Drill (Men), Military 2a, 2b, 2c-----	1 $\frac{1}{3}$	1 $\frac{1}{3}$	1 $\frac{1}{3}$
Elective -----	6	3	3
	17 $\frac{1}{3}$	17 $\frac{1}{3}$	17 $\frac{1}{3}$

The following are recommended as electives for the sophomore year:

Mathematics 10 -----	5		
Spanish 2a, 2b, 2c, or			
French 2a, 2b, 2c -----	3	3	3
Typewriting, Commerce 6a, 6b, 6c -----	1 $\frac{2}{3}$	1 $\frac{2}{3}$	1 $\frac{2}{3}$

Junior Year

American Government, History 11a, 11b-----	4	4	
Political Parties, History 12 -----		4	
Elementary Educational Psychology, Education 31		4	
Electives in Education -----	4		4
Elective -----	9	9	9
	17	17	17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Agricultural Economics, History 22 -----		4	
Rural Sociology History 32-----			4
Salesmanship, Commerce 11 -----	5		
Advertising, Commerce 10 -----		2	
Elective -----	8	7	13
	17	17	17

Electives for junior and senior years:

A considerable amount of the student's time in the junior and senior years is available for free election from courses in other departments of the College. This gives the student an opportunity to broaden his outlook into fields not covered by the requirements of his course.

*Women students are required to take Physical Training 1 credit each term during the freshman and sophomore years, and Freshman Lectures $\frac{1}{2}$ credit in each of the fall and winter terms of the freshman year.

THE FOUR YEARS COURSE IN GENERAL SCIENCE

The four years course in general science affords a good general education and allows specialization either in the biological sciences or in mathematics and physical science. The entrance requirements are the same as those of the other courses leading to degrees. (See entrance requirements.)

The requirements for graduation in this course are 204 credits, including freshman hygiene, the military drill required of all men and the physical training required of all women during the freshman and sophomore years, with 204 grade points.

These credits are distributed as follows:

I. Prescribed work. The following are required of all students taking the course: English, including rhetoric, 15 credits; public speaking, 3 credits; inorganic chemistry, 9 credits; *general mathematics, 9 credits; economics, 4 credits; history, 9 credits; geology, 5 credits; psychology, 4 credits; **military drill (men), 8 credits; physical training, (men) 2 credits; physical training (women), 6 credits; freshmen lectures (women), 1 credit.

II. In addition to the prescribed work, not less than 12 credits must be chosen in each of groups 2 and 3, as listed on page 72, and not less than 36 credits from both groups.

III. Forty-two credits, exclusive of prescribed work, must be chosen from group 4.

IV. The remaining credits may be chosen from all groups.

The work of the freshman and sophomore years is outlined below. Unless there is some good reason to the contrary, students of the general science course will not be allowed to deviate from this plan.

Students who bring credits from other institutions will not be required to repeat subejcts they have already covered.

*Students who intend to continue work in mathematics beyond the freshman year should take mathematics 2, 3, and 4, instead of general mathematics (Mathematics 1a, 1b, 1c).

**Beginning with the fall term of 1922 men of the freshman class will be required to take physical training two hours a week during the year. This work will include lectures on hygiene, first aid to the injured, and similar topics.

General Science

Freshman Year

	Fall	Winter	Spring
Inorganic Chemistry, Chemistry 1a, 1b, 1c ----	3	3	3
Rhetoric, English 1a, 1b, 1c, -----	3	3	3
General Mathematics 1a, 1b, 1c, -----	3	3	3
*Military Drill (Men), Military 1a, 1b, 1c -----	1½	1½	1½
Physical Training and Hygiene (Men) -----	¾	¾	¾

And one of the following:

French 1a, 1b, 1c or Spanish 1a, 1b, 1c-----	3	3	3
General Botany, Botany 2a, 2b, 2c -----	3	3	3
English History, History 2a, 2b, 2c -----	3	3	3
Business Law, Business Organization, Banking, Commerce 1, 2, 3-----	3	3	3
Electives to make seventeen credits -----	—	—	—
	17	17	17

Sophomore Year

English Literature, English 7a, 7b, 7c, or American Literature, English 6a, 6b, 6c, -----	2	2	2
Extempore Speaking, English 20a, 20b, 20c-----	1	1	1
*Military Drill (Men), Military 1a, 1b, 1c-----	1½	1½	1½

And two of the following:

General Physics, Physics 1a, 1b, 1c-----	4	4	4
Organic, Quantitative, and Physiological Chemistry, Chemistry 2, 3, 14-----	5	3	4
Business Law, Business Organization, Bank- ing, Commerce 1, 2, 3-----	3	3	3
English History, History 2a, 2b, 2c-----	3	3	3
General Botany, Botany 2a, 2b, 2c-----	3	3	3
General Zoology and Physiology, Zoology 1a, 1b, 7 -----	3	3	3
French 2a, 2b, 2c or Spanish 2a, 2b, 2c-----	3	3	3
Electives to make seventeen credits -----	—	—	—
	17	17	17

* Women students are required to take Physical Training 1 credit each term during the freshman and sophomore years, and Freshman Lectures ½ credit in each of the fall and winter terms of the freshman year.

Description of Work

Groups of Collegiate Subjects

For convenience in securing balance in schedules the subjects of college grade are arranged in five groups:

1. Here belong the vocational and technical subjects offered in the departments of Agricultural Journalism, Agronomy, Animal Husbandry, Art, Civil Engineering, Commerce, Dairy Husbandry, Education, Electrical Engineering, Entomology, Home Economics, Horticulture, Industrial Art, Mechanical Engineering, Military Science, Pharmacy, Poultry Husbandry, and Veterinary Medicine.

2. The biological sciences, including most of the work offered by the departments of Botany, Zoology and Entomology.

3. The mathematical and physical sciences, including the work of the departments of Chemistry, Mathematics, Physics, and a few other subjects.

4. Languages and the social sciences, including the subjects offered by the departments of Education, English, History and Political Science, and Foreign Languages.

5. The fine arts, including music, charcoal drawing and painting.

Rules Governing Electives

Except where otherwise indicated, it is understood that the electives of any collegiate plan of study may be selected from the work of any collegiate department with the following general restrictions:

If a student begins a subject which is continued during the following term or terms, he should complete the subject.

Not less than one year of foreign language will be counted towards a degree unless the student presents credit for one year of the same language studied elsewhere.

The amount of credit in music, the fine arts, and several other lines, that may be counted towards a degree in courses that permit elective work is naturally limited. Such work is

designated in the departmental descriptions as "limited credit" subjects and include:

(1) Music, with the exception of history of music, public school music, theory of music and harmony.

(2) The fine arts, including painting, charcoal drawing and handicraft.

(3) Forging, carpentry, typewriting, printing and other vocational subjects. However, in case a student desires to become proficient in some one of these lines of study with the view of teaching the subject, special concessions may be made to him by the classification committee.

(4) College credit received for intercollegiate debating and oratory, editorial work on student publications, and in other activities outside regular classes.

In general not more than ten credits in "limited credit" subjects may be counted towards a degree, and unless prescribed in the scheme of study not more than three may be counted in any one year.

Laboratory Fees and Breakage Deposits

Following is a list of laboratory fees and deposits for collegiate subjects. For laboratory fees in connection with Music, The School of Agriculture, Printing, Tractor and Auto Mechanics, and other special courses, see descriptions of these departments.

		Lab. Fee	Deposit
Agronomy			
Grain and Root Crops,	3 cr., w, s	\$1.00	
Soils,	4 cr., f, w, s	2.00	\$2.00
Adv. Soil Fertility,	4 cr., f, w, or s	2.00	2.00
Adv. Soil Physics,	4 cr., f, w, or s	2.00	2.00
Geology,	5 cr., f	1.00	
Meteorology,	4 cr., w	1.00	
Animal Husbandry			
Stock Judging,	2 cr., f, w, s	1.00	
Adv. Stock Judging,	3 cr., f,	1.50	
Horse Production,	3 cr., w	1.00	
Swine Production,	3 cr., w	1.00	
Beef Cattle Production,	3 cr., s	1.00	
Sheep Production,	3 cr., f	1.00	

Art

Charcoal Drawing,	1 or 2 cr., f, w, or s	.50
Design,	2 cr., f, w, s	.50
Design and Composition,	2 cr., f	.50
House Decoration	2 cr., w	.50
Costume Design,	2 cr., s	.50
Handicraft,	1 or 2 cr., f, w, or s	.50

Botany

Bacteriology	4 cr., f, w, or s	5.00
Agr. Botany,	3 cr., f, w, s	2.00
Gen. Botany,	3 cr., f, w, s	2.00
Plant Physiology,	3 cr., s	3.00
Plant Diseases,	3 cr., w	2.00
Plant Histology,	4 cr., w	4.00
Adv. Botany and Research,		1.00 per cr.

Chemistry

Inorganic Chemistry,	3 cr., f, w	3.00	2.00
Inorganic Qual. Analysis,	3 cr., s	4.00	2.00
El. Organic Chemistry,	5 cr., f	5.00	2.00
Quant. Analysis,	3 cr., w	3.50	2.00
Volumetric Analysis,	3 cr., s	2.00	2.00
Chemistry of Foods and Nutrition,	4 cr., s	3.50	2.00
Adv. Organic Chemistry,	5 cr., f, w, s	5.00	2.00
Prox. Organic Analysis,	3 cr., w	3.50	2.00
Water Analysis,	3 cr., s	4.00	2.00
Agr. Chemistry,	4 cr., f	2.00	2.00
Physical Chemistry,	5 cr., s	5.00	2.00
Physiological Chemistry,	5 cr., f	5.00	2.00
Technical Analysis,	4 cr., s	5.00	2.00
Adv. Qual. Analysis,	4 cr.,	3.00	2.00
Thesis, fee dependent upon work assigned.			

Civil Engineering

Plane Surveying,	3 cr., s	2.00
Topographical Surveying,	3 cr., f	2.00
Railroad Surveying,	3 cr., w	1.00
Railroad Surveying,	2 cr., s	2.00

Commerce

Typewriting,	3 cr., f, w, or s	2.00
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Dairy Husbandry,

Farm Dairying,	3 cr., f, s	1.00
Dairy Inspection,	5 cr., f	2.00
Dairy Bacteriology,	5 cr., f	2.00

Manuf. of Butter,	5 cr.,	s	2.00	
Manuf. of Cheese,	5 cr.,	f	2.00	
Dairy Technology,	5 cr.,	f	2.00	
Adv. Insp. Dairy Prod.,	4 cr.,	w	2.00	
Adv. Dairy Bacteriology,	4 cr.,	s	2.00	
Electrical Engineering				
Applied Electricity,	1 cr.,	f	1.00	
Applied Electricity,	1 cr.,	w	1.00	
Electrical Machinery,	5 cr.,	f	2.00	
Electricity and Magnetism,	5 cr.,	f	2.00	
Direct Cur. Dynamos & Motors,	5 cr.,	w	2.00	
Alternating Current Electricity,	5 cr.,	s	2.00	
Adv. Alt. Currents,	5 cr.,	f	2.00	
Electric Lighting,	5 cr.,	w	2.00	
Electric Transmission & Power,	4 cr.,	s	2.00	
Home Economics				
Food Preparation & Marketing,	4 cr.,	f, w	3.00	
Food Preparation,	4 cr.,	f, w	3.00	
Dietetics,	4 cr.,	w, s	3.00	
Special Cookery Problems,	4 cr.,	f	3.00	
Demonstration Cookery,	4 cr.,	s	3.00	
Home Nursing,	3 cr.,	s	.50	
Elementary Sewing,	3 cr.,	f, w	.50	
Textiles and Laundry,	4 cr.,	w, s	2.00	
Dressmaking,	4 cr.,	s	.50	
Drafting and Dressmaking,	3 cr.,	f	.50	
Modeling and Adv. Dressmaking,	4 cr.,	s	1.50	
Millinery,	4 cr.,	w, s	1.00	
Household Management,	3 cr.,	f	1.00	
Institutional Management,	5 cr.,	s	2.00	
Industrial Art				
Cabinet Making,	2 cr.,	f, w	.75	per cr.
Wood Turning,	2 cr.,	s	.75	per cr.
Furniture Design,	2 cr.,	s	.75	per cr.
Carpentry,	2 cr.,	s	.75	per cr.
Mechanical Engineering				
Forging, any term,		f, w, or s	.75	per cr.
Machine Shop,	3 cr.,	f, w	.75	per cr.
Engineering Laboratory,	2 cr.,	f, w, s	2.00	
Pharmacy				
Pharmaceutical Botany,	5 cr.,	f	2.00	2.00
Pharmacognosy,	4 cr.,	w, s	2.00	2.00

Prac. Pharmacy,	2 cr.,	s	2.00	2.00
Prac. Pharmacy,	3 cr.,	f	5.00	2.00
Dispensing,	4 cr.,	f, w, s	5.00	2.00
Drug Assaying,	4 cr.,	w, s	2.00	2.00
Toxicology,	4 cr.,	w, s	2.00	2.00
Urine Analysis,	4 cr.,	f	2.00	2.00
Physics				
General Physics,	4 cr.,	f, w, s	2.00	
College Physics,	3 cr.,	f, w, s	2.00	
Adv. Physics,	5 cr.,	f	2.00	
Heat,	5 cr.,	w	2.00	
Light,	5 cr.,	s	2.00	
Zoology and Entomology				
General Zoology,	3 cr.,	f, w	2.00	
Pharmacy Physiology,	4 cr.,	f; 3 cr., w	2.00	
Vertebrate Histology,	4 cr.,	f, w	2.00	
Vertebrate Entomology,	3 cr.,	s	3.00	
Entomology,	3 cr.,	w, s	1.50	
Orchard Entomology	3 cr.,	s	1.00	
Garden Entomology,	3 cr.,	f	1.00	
Field Crops Entomology,	3 cr.,	s	1.00	
Bee Keeping,	3 cr.,	f	2.00	

Collegiate Departments of Instruction

The following departments offer regular work which may be applied towards the various degrees.

Agricultural Journalism	History and Political Science
Agronomy	Home Economics
Animal Husbandry	Horticulture and Forestry
Art	Industrial Art
Botany and Plant Diseases	Mathematics
Chemistry	Mechanical Engineering
Civil Engineering	Military Science
Commerce	Pharmacy
Dairy Husbandry	Physics
Education	Physical Education
Electrical Engineering	Poultry Husbandry
English	Veterinary Medicine
Foreign Language	Zoology-Entomology

The numbers in parentheses following the name of each subject indicate respectively the number of hours the student is expected to spend each week in the lecture room, the laboratory, and in study. The letter "h" in front of the number of a subject is open only to juniors and seniors.

AGRICULTURAL JOURNALISM

MR. KIESER, MISS ROTH

The following courses are designed to assist those who become public servants as teachers, county agents, home demonstration leaders and other specialists along agricultural lines, and who by the nature of their work will be expected to prepare news items and articles for publication. The requirements of the rural press are kept especially in mind.

h 1 News Writing (2, 0, 4) 2 credits Fall term

Methods of gathering news; the writing of news; news values. Practice in preparing news stories and special articles.

h 3 Feature Story Writing (2, 0, 4) 2 credits Spring term

Particular emphasis is placed on methods of popularizing scientific and technical material. Text: Bleyer's How to Write Special Feature Articles.

AGRONOMY

PROFESSOR HUME, ASSOCIATE PROFESSOR HUTTON, ASSOCIATE PROFESSOR EVANS, ASSISTANT PROFESSOR BUSH-EY, MR. FOWLDS.

The Agronomy Department is the department of soils and crops. To help students apply the principles of science to crop production on the farms of South Dakota is the essential purpose of the courses offered.

What is soil in South Dakota, or on some farm within the state? The student may learn to outline soil areas, to analyze soils, to observe field experiments, and answer the question for himself.

What crops will grow in South Dakota soil areas, and how may the growing of them be made most profitable to the man who does the work? A study of the results of experiments will answer the questions for the student. It is attempted to give the student in agronomy that accurate knowledge of conditions which is necessary to success in farming.

The courses offered are fundamental, practical, scientific. They are designed for South Dakota farmers. They may be pursued with profit by prospective teachers of agriculture, or experiment station workers.

- 1a, 1b **Grain and Root Crops** (1, 4, 4) 3 credits Winter term
(2, 4, 3) 3 credits Spring term

Production and marketing of the common field crops, including barley, corn, flax, oats, potatoes, rye, and wheat. Classification, grading and judging of seed. Open to all college students. Required of all agricultural students. One recitation and four hours of laboratory work a week, winter term; two recitations and four hours of laboratory work a week, spring term. Mr. Evans.

Laboratory fee, \$1.00 each term.

- h 2a, 2b **Crop Breeding** (2, 2, 5) 3 credits Winter term
(2, 2, 5) 3 credits Spring term

Principles of cropping with emphasis upon improvement by selection and breeding; dealing chiefly with principal field crops of South Dakota—corn, wheat, oats, barley, potatoes, alfalfa. In addition to text book references, such magazines as the Journal of Agronomy, Science, The Journal of Heredity. Students may be requested to subscribe for at least one such magazine. Text: Breeding Crop Plants, Hayes and Garber. Prerequisite, two years of college work. Required of all agronomy students. Two recitations and one two-hour seminar a week. Mr. Hume.

- 3 **Field Management** (1, 4, 4) 3 credits Winter term

Arrangement and management of crop rotations with special reference to cost and profit under South Dakota conditions. Prerequisite, Agronomy 1a, 1b. One recitation and four hours of laboratory work a week. Mr. Evans.

- 4 **Forage Crops** (1, 4, 4) 3 credits Spring term

Production and marketing of forage; including meadow and pasture grasses, millets, prosos, sorghums, clovers, field peas, field beans. Open to all college students. Required of all agronomy students. One recitation and four hours of laboratory work a week. Mr. Evans.

- 5 **Seed Inspection** (0, 4, 5) 3 credits Fall term

Seed testing, seed impurities and methods of eradication of weeds from farm crops and seeds; characteristics of crop impurities from the standpoint of eradication, as quack grass, Canadian thistle, wild oats. Open to all college students. Required of all agronomy students. Four hours of laboratory work a week. Mr. Fowlds.

- h 6 **Crop Inspection** 3 credits Fall term

Advanced judging; examination of the several varieties of cereals, root and forage crops, with special reference to resistance to adverse weather conditions and diseases. Examination of crops in the field, experiment plots and prepared specimens. Prerequisite, Agronomy 1a, 2b. Mr. Evans.

- h 7a, 7b **Field Crops** 3 credits Winter term
3 credits Spring term

Special problems for advanced students who may become interested in a particular line of investigation, in relation to cereal or forage crops; production or growth of crops; crop improvement; study of previous experiments; original work in greenhouse or field. Student may be required to submit a final report or thesis. Time to be arranged. Mr. Hume; Mr. Evans.

- 8 **Experiment Field Observation** 3 to 6 credits Summer

A course open to all students who work under the direction of the Agronomy Department on one of the experiment farms or on some oth-

er approved project. Assisting in laying out plots, taking field notes, cultivating, harvesting, threshing. May make a collection of crops, weeds and grasses. Will keep a notebook and receive credit on basis of work, and examination by the Agronomy Department.

h 9a, 9b, 9c Soils (2, 6, 4) 4 credits Each term

The first half of the year is devoted to Soil Physics and Management. The origin and development of the soil under different climatic conditions; classification of soils upon several bases; texture, porosity, specific gravity, plasticity, capillarity, granulation of soils; the soil as a reservoir for water; the movement and control of soil water; irrigation and drainage; the alkali problem; aeration of the soil and its relation to soil texture and plant growth; soil temperature; the physical effect of manures upon the soil; erosion by wind and running water—blowing and washing—and their control; the practical application of the foregoing to methods of tillage; crop rotation and the application of green and farm manures in the management of different types of soil. The laboratory work includes a careful study of the physical properties of the soil through observation and practice; soils are also studied under field and green-house conditions.

The second half of the year is devoted to Soil Fertility. The relation of the fertility content of the soil to crop yields; effect of supplying various elements of fertility; effects of different rotations and systems of farming in relation to permanent agriculture; farming systems adapted to South Dakota conditions. The laboratory work includes the analysis of manures and fertilizers and the determination of their agricultural and commercial values; the analysis of various farm products and the analysis of a soil, preferably from the student's home farm, to determine fertility content. These analyses serve as a basis for devising a system of permanent agriculture for the student's home farm. Prerequisite, Agronomy 1a, 1b, Elementary Physics, Organic, Inorganic, and Quantitative Chemistry. Required of all agricultural students. Two recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee, \$2.00, deposit \$2.00 each term.

h 10 Advanced Soil Physics (2, 6, 4) 4 credits Any term

Designed for students who wish to continue the work in Soil Physics begun in Agronomy 9a. A study in the field of the effects of disk-ing, harrowing, rolling, subsoiling, frequency and depth of cultivation with reference to conservation of soil moisture. The student may select a soil in which he is interested and make a complete physical analysis thereof; he may make a careful study of the movement of the water therein and its effect upon the growth of plants; he may choose a special irrigation or drainage problem in which he is interested; the results of the work are summarized in a final report or thesis. Students who elect this course are advised to signify their intention of so doing at the end of the college year, so that materials may be collected during the summer, and observations recorded. Prerequisite, Agronomy 9c. Two recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee, \$2.00, deposit \$2.00.

h 11 Advanced Soil Fertility (2, 6, 4) 4 credits Any term

A continuation of Agronomy 9c. The students may study in detail a special soil in which he is interested or pursue a special problem. The work may include pot culture work in the greenhouse; analysis of soil

used in the pots; application of various fertility elements and their relation to the management of the soil; the study of the micro-organisms of the soil in relation to the preparation and availability of plant food, preparation of culture media, cultures from soil suspensions, preparation and study of a few cultures, ammonification, nitrification, nitrogen fixation, legume bacteria and conditions favorable to their growth, inoculation; results of bacterial action determined by quantitative analysis; reading of bulletins, books etc., and a preparation of a bibliography. The results of the study will be submitted in a final report or thesis. Prerequisite, Agronomy 9c. Two recitations and six hours of laboratory work a week. Mr. Hutton.

Laboratory fee, \$2.00, deposit \$2.00.

h 12 Irrigation and Drainage (3, 0, 6) 3 credits Any term

A consideration of the effects of the change in water content of soils through irrigation and drainage; the effect upon the physical condition of the soil and upon its productivity, special attention given to the problems of irrigation and drainage of unreclaimed lands in South Dakota. Lectures, reading, field observations. Prerequisite, Agronomy 9c. Three recitations a week.

h 13 Soil Surveying (2, 0, 4) 2 credits Spring term

The object of this course is to familiarize students with the methods of determining soil types and constructing soil maps. The work in the recitation room is supplemented by actual work in the field. Designed for those students who may wish to take up soil survey work. Prerequisite, Agronomy 9b. Two recitations or field trips a week. Mr. Hutton and assistants.

h 14 Earth Science; Geology (3, 6, 6) 5 credits Fall term

A course in general geology with the greater emphasis placed upon the physical division of the subject. The geology of South Dakota in relation to soils, water supplies and mineral wealth is given special attention. Collections of rocks, minerals, typical fossils, physiographic and geologic models, lantern slides, charts and maps are available for laboratory work and reference. Prerequisite, junior standing. Three recitations and six hours of laboratory a week. Mr. Hutton.

Laboratory fee, \$1.00.

h 15 Earth Science; Meteorology (3, 3, 6) 4 credits Winter term

A practical course dealing with the laws controlling the movements of the atmosphere, the study of climatological and weather factors, with special attention to conditions in the United States; the climate and weather of South Dakota in relation to various economic interests, weather maps, and forecasts. Prerequisite, junior standing. Three recitations and three hours of laboratory work a week. Mr. Hutton.

Laboratory fee, \$1.00.

ANIMAL HUSBANDRY

PROFESSOR WILSON. ASSOCIATE PROFESSOR KUHLMAN,
ASSISTANT PROFESSOR GRINNELLS, MR. HELM

It is generally admitted that livestock farming is the basis for an intensive agriculture and that it, as well as good farming, must be practiced if the fertility of the soil is to be

maintained.

Work in this department aims to give the student a practical and scientific knowledge of animal husbandry. The herds and flocks include representatives of fifteen of the leading breeds of farm animals, which are used for class and demonstration purposes.

The following subjects are offered by this department:

1a, 1b, 1c **Stock Judging** (2, 2, 2) 2 credits Each term

Study and practice in scoring and judging market types and classes of horses, cattle, sheep and swine; history, characteristics, and economic importance of the various breeds, and the judging of breeding classes. Two recitations and two laboratory hours per week. Mr. Wilson, Mr. Kuhlman, and Mr. Grinnells.

Laboratory fee, \$1.00 each term.

2 **Advanced Stock Judging** (0, 6, 3) 3 credits Fall term

This course includes advanced work in judging market, breeding, and show animals of the various breeds of horses, cattle, sheep and swine. Prerequisite, Animal Husbandry 1a, 1b, 1c. Six hours of laboratory work per week. Mr. Kuhlman.

Laboratory fee, \$1.50.

h 3 **Principles of Animal Breeding** (3, 0, 6,) 3 credits Winter term

This course deals with the laws of reproduction and development of animals and the study of the different systems employed in producing both market and breeding animals. Prerequisite, Animal Husbandry 1 and 6 and Veterinary 6. Three recitations per week. Mr. Kuhlman.

h 4 **Animal Nutrition** (3, 0, 6) 3 credits Fall term

This subject deals with the physical and chemical characteristics of the various feeding stuffs and their relation to practical feeding operations. Prerequisite, Animal Husbandry 1a, 1b, 1c, Chemistry 1a, 1b, 1c. Three recitations per week. Mr. Grinnells.

6 **Livestock Management** (2, 0, 4) 2 credits Spring term

A study of practical methods and principles involved in the management of all kinds of livestock. Prerequisite, Animal Husbandry 1a, 1b, 1c. Two recitations per week. Mr. Kuhlman.

h 7 **Live Stock History** (3, 3, 6) 4 credits Spring term

A detailed historical study of the common breeds, the methods employed by noted breeders, study of pedigrees of individuals and families and their relation to the development of the breed. Prerequisite, Animal Husbandry 1a, 1b, 1c. Three recitations per week. Mr. Kuhlman.

h 8a **Horse Production** (3, 3, 3) 3 credits Winter term

Feeding, judging, management and marketing of horses. Prerequisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Grinnells.

Laboratory fee, \$1.00

h 8b **Swine Production** (3, 3, 3) 3 credits Winter term

Feeding, judging, management and marketing of swine. Pre-

requisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Kuhlman.

Laboratory fee, \$1.00

h 8c Beef Cattle Production (3, 3, 3) 3 credits Spring term

Feeding, judging, management and marketing of beef cattle. Prerequisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Wilson.

Laboratory fee, \$1.00

h 8d Sheep Production (3, 3, 3) 3 credits Fall term

Feeding, judging, management and marketing of sheep. Prerequisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Kuhlman.

Laboratory fee, \$1.00

h 9 Live Stock Problems (to be arranged) 1 to 5 credits Each term

Advanced and graduate students who have necessary qualifications may be assigned special problems along definite investigational lines. Such work will include assigned readings, conferences, and in a limited number of cases original work in animal husbandry research. Mr. Wilson; Mr. Kuhlman.

h 10 Farm Meats (2, 3, 4) 3 credits Winter term

Selecting, cutting and curing of meats in the farm home. Elective to Juniors and Seniors. Prerequisite, Veterinary 1 and 2, Animal Husbandry 1a, 1b, 1c and 4. Mr. Grinnells.

ART

PROFESSOR CALDWELL, ASSOCIATE PROFESSOR WILLIS,
MISS GERON

The work of this department is designed to cultivate in the student intelligent appreciation and enjoyment of beauty in nature and art.

1 Charcoal Drawing (0, 3, 0) 1 (or 2) credits Any term

A study from cast, pose and still life, of the construction of heads and figures, the modeling of surfaces and effects of light. Three hour's work for each credit. Limited credit subject. Miss Gernon.

Laboratory fee, 50 cents.

2a Design (0, 6, 0) 2 credits Fall term

A study of space cutting and proportion. Exercises in line and in dark and light, in pencil and charcoal. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

2b Design (0, 6, 0) 2 credits Winter term

A study of values, or dark and light arrangements within spaces; borders and surface patterns. Prerequisite, Art 2a. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

2c Design (0, 6, 0) 2 credits Spring term

A study of color; hue value, intensity and harmony of color applied to simple designs. Prerequisite, Art 2a and 2b. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

3a Design and Composition (0, 6, 0) 2 credits Fall term

A study of informal design in line, dark and light and color; decorations for definite problems; simple illustrations with special emphasis on composition. Prerequisite, Art 2a, 2b, 2c. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

3b House Decoration (0, 6, 0) 2 credits Winter term

A study in proportion in line, dark and light and color as applied to the needs of a well designed house. The planning of color schemes and arrangements for particular rooms, giving special attention to light exposure. Prerequisite, Art 2a, 2b, 2c. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

3c Costume Design (0, 6, 0) 2 credits Spring term

A study of art as applied to costume; designing dress with careful attention to the proportions and personality of the wearer and suitability to the occasion. Prerequisite, Art 2a, 2b, 2c. Six hours of studio work a week. Miss Willis.

Laboratory fee, 50 cents.

4 Applied Design (0, 3, 0,) 1 (or 2) credit Any term

A study of the principles of proportion and decoration as applied to construction and pattern in the various crafts of basketry, pottery, leather tooling, metalry, weaving, stenciling, block printing and lace making. Usually the student may choose the crafts in which he wishes to work. Prerequisite, the student must have had some training in drawing and design. Prerequisite for leather and stenciling, Art 1, and for second term pottery, charcoal drawing. Three to six hours of studio work a week. Miss Caldwell; Miss Gernon.

Laboratory fee, 50 cents.

5 Painting (0, 3, 0) 1 credit Any term

A study of color and its properties; exercises in mixing and harmonizing color in painting in oil, watercolor and pastel, from objects and nature. Prerequisite, Preparatory Drawing or Charcoal Drawing. Three hours of studio work a week. Limited credited subject. Miss Caldwell.

6a, 6b, 6c Art Appreciation (1, 0, 2) 1 credit Each term

A study of arts as expressed in the great masterpieces of architecture, sculpture and painting. Illustrated with picture and lantern.

Fall term: Important styles of architecture; characteristics, examples.

Winter term: Important schools of painting, great masters and examples of their work.

Spring term: 1, Great American artists and their work; 2, some of the minor arts such as pottery, china, tapestry, etc. Students are

advised to take the courses in art appreciation in order named, but may take any term. Each student will be expected to own a small collection of Perry or University prints. Miss Caldwell.

BOTANY AND PLANT DISEASES

PROFESSOR PETRY

In the work of this department, the structure, physiology, classification and pathology of plants, the fundamental problem of cell structure and function are studied, as well as the direct application of botanical science to agriculture. This work also helps to serve as a foundation for advanced courses in forestry, plant breeding, plant diseases, horticulture, etc.

The instruction aims primarily to develop the powers of accurate observation and the ability to draw correct conclusions concerning the growth and uses of plants.

Both the elementary and advanced laboratories are equipped with microscopes and other necessary apparatus for carrying on advanced or research work. The department has fairly complete, convenient herbaria of the flowering plants and fungous flora of the United States.

1a Agricultural Botany (2, 4, 3) 3 credits Fall term

The general principles of biology as illustrated by plants, a study of the cell, followed by a study of the nature of flowering plants and especially of those more closely related to agriculture. Two lectures or recitations and two two-hour laboratory periods a week.

1b Agricultural Botany (2, 4, 3) 3 credits Winter term

A continuation of course 1a. The first part of the work will take up the life cycles of all classes of plants, and a study of the principal types of algae; the latter part of the work will be a consideration of the principal groups of fungi and especially those causing diseases of the higher cultivated plants. Two lectures or recitations and two two-hour laboratory periods a week.

1c Agricultural Botany (2, 4, 3) 3 credits Spring term

The study of plants from a systematic point of view. The classification of trees found on the campus, followed by the identification of the principal groups of common weeds and cultivated plants. The study of plant associations and their meaning for agriculture. Two lectures or recitations and two two-hour laboratory periods a week.

2a, 2b, 2c General Botany (2, 4, 3) 3 credits Each term

The work in this course will be somewhat similar to the preceding courses, but modified to apply more directly to the needs of students

in General Science and Household Economics. Two lectures or recitations and two two-hour laboratory periods a week.

3 Plant Physiology (2, 4, 3) 3 credits Spring term

A consideration of the more important life processes of the plant including the properties of living matter; the general physiology of metabolism, growth, reproduction and irritability, the control of the chemical and physical life processes of plants, etc. Prerequisite, Botany 1a, 1b, 1c, or 2a, 2b, 2c. Two recitations and two two-hour laboratory periods a week.

4 Plant Diseases (2, 4, 3) 3 credits Winter term

This course acquaints the student with the commoner plant diseases of the state together with the best methods of controlling them. The systematic relationships of the causal fungi are also given proportionate attention, thus laying the foundation for advanced studies and for practical disease control work in the United States. Prerequisites, Botany 1a, 1b, 1c, or 2a, 2b, 2c. Two recitations and two two-hour laboratory periods a week.

Laboratory fee, \$3.00.

5 Taxonomy (2, 6, 4) 4 credits Fall term

The systematic arrangement and classification of the lower and intermediate divisions of plants, but especially of the higher flowering plants. The structure and relationship of weeds, grasses, grains and other plants of economic importance will be included. Prerequisite, Botany 1a, 1b, 1c, or 2a, 2b, 2c. Two recitations and two three-hour laboratory periods a week.

Laboratory fee, \$2.00.

6 Weeds (1, 6, 2) 3 credits Fall term

The aim will be to acquaint students with our more common weeds and methods of control. Numerous field trips will be made in the early fall. Prerequisite, Botany 1a, 1b, 1c, or 2a, 2b, 2c. One recitation and three two-hour laboratory periods a week.

7 Plant Histology (0, 12, 0) 4 credits Winter term

The work will consist of the imbedding, sectioning, and staining of tissues from the various groups of plants. Prerequisites, general botany and general chemistry or their equivalents. Text-book: Chamberlain's *Methods in Plant Histology*.

Laboratory fee, \$4.00.

h 8 Heredity (4, 0, 8) 3 credits Fall term

The principles of variation and heredity, their bearing upon the theory of organic evolution and their applications by man. This course is open to all students who have had general or agricultural botany and general zoology. Four recitations a week. Text-book: Babcock and Clausen's *Genetics in Relation to Agriculture*.

9 Botany Seminar 1 credit Each term

Reviews of current research in the various divisions of botany. Hours to be arranged. A two-hour session per week. Prerequisites as in Botany 10, or equivalents.

h 10 Advanced Botany and Research 2 to 5 credits

Each term

Prerequisites, Botany 1a, 1b, 1c, or Botany 2a, 2b, 2c, and that course of the following which supports the advanced work desired, viz.: Taxonomy, Physiology, Plant Diseases, Plant Histology, or Heredity. Two and three credit courses will be class work, while four and five credit courses will usually consist of research work.

Laboratory fees, \$1.00 per credit when laboratory work is involved in work elected.

CHEMISTRY

PROFESSOR DUNBAR, ASSOCIATE PROFESSOR BINNEWIES,
ASSISTANT PROFESOR WALTER, MR. WELLS, MR. FARLEY

It is the aim of the department to give the student a general training, so far as the required courses are concerned, in the elementary principles of the science, especially as applicable to the problems he may be expected to meet in relation to the work of an instructor of agricultural subjects, and to the work in his more advanced courses in other lines of study. The courses are also designed with a view to technical and analytical preparation for students who purpose to enter commercial and experimental careers along chemical lines. With such aims in view, the department stresses the practical rather than the theoretical application of chemistry, although such degree of importance is attached to the latter phase of the study as to make the work adaptable to higher investigational courses, should the student incline toward such further study of chemistry. The advanced and elective courses are designed especially for training students who purpose to study pharmacy, medicine and food problems, and those who are looking toward technical positions in manufacturing plants or in experiment station work.

The following is a brief description of the courses offered:

1 a Inorganic Chemistry (3,3,3) 3 credits Fall term

General chemical laws and study of non-metallic elements. Laboratory work stresses qualitative properties and tests. Prerequisite, freshman standing. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Walter; Mr. Farley.

Laboratory fee, \$3.00, deposit, \$2.00.

1 b Inorganic Chemistry (3, 3, 3) 3 credits Winter term

Continuation of 1a. Study of metallic elements with laboratory work devoted to study of properties, commercial uses, and qualitative de-

termination of the metals. Prerequisite, Chemistry 1a. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Walter; Mr. Farley.

Laboratory fee, \$3.00, deposit, \$2.00.

1 c Inorganic Qualitative Analysis (3, 3, 3) 3 credits Spring term

Continuation of 1a and 1b. Analysis of mixtures of common inorganic compounds, with review of entire subject of Inorganic Chemistry. Prerequisite, Chemistry 1a and 1b. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Walter; Mr. Farley.

Laboratory fee, \$4.00, deposit \$2.00.

2 Elementary Organic Chemistry (5, 5, 5) 5 credits Fall term

General course covering essentials of the subject as applicable to work in Pharmacy, Agriculture, and Domestic Science. Laboratory work largely qualitative. Prerequisite, Chemistry 1a, 1b, 1c. Five recitations and five laboratory hours a week. Mr. Binnewies; Mr. Dunbar; Mr. Walter; Mr. Farley.

Laboratory fee, \$5.00, deposit \$2.00.

3 Quantitative Analysis (1, 8, 0) 3 credits Winter term

Mainly devoted to gravimetric manipulation of inorganic types, with simple problems in volumetric analysis at the close of term. Prerequisite, Chemistry 1a, 1b, 1c. Nine laboratory hours a week, one of them devoted to a lecture upon the explanation of principles involved and methods of attack. Mr. Farley.

Laboratory fee, \$3.50, deposit, \$2.00.

4 Volumetric Analysis (0, 9, 0) 3 credits Spring term

Continuation of Chemistry 3 and wholly given over to commercial and volumetric analysis of common inorganic materials. Prerequisite, Chemistry, 1a, 1b, 1c, 3. Elective. Nine hours of laboratory work a week. Mr. Walter.

Laboratory fee, \$2.00, deposit, \$2.00.

5 Chemical Problems (3, 0, 6) 3 credits Spring term

Study of the more common calculations encountered in Pharmacy and Quantitative Chemistry. Prerequisite, Chemistry 1a, 1b. Three recitations a week.

6 Chemistry of Foods and Nutrition (3, 3, 6) 4 credits Winter term

Study of elementary problems in Physiological Chemistry as related to nutrition, digestive processes and metabolism in general, with special stress upon laboratory work connected with study of nutrients and food values. A course especially aimed to cover problems arising out of work in Domestic Science Courses. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three lectures and three laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$3.50, deposit \$2.00.

h 7a Advanced Organic Chemistry (3, 6, 6) 5 credits Fall term

Intensive study of Aliphatic types, with laboratory work devoted to practice upon well-known synthetic methods. Course aimed toward industrial application and preparation for medical study. Prerequisite, Chemistry, 1a, 1b, 1c, 2. Three recitations and six laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

h 7b Advanced Organic Chemistry (3, 6, 6) 5 credits Winter term

Continuation of 7a, but may be taken as a unit course. Aromatic Types. Laboratory work upon synthesis of these types. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three recitations and six laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

h 7c Advanced Organic Chemistry (2, 9, 4) 5 credits Spring term

Continuation of 7b. Aromatic Types, with special reference to dyes. If time permits, qualitative work in identification of organic groups typical for different common organic compounds will be offered. Prerequisite, Chemistry 1a, 1b, 1c, 2, 7b. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

h 8 Proximate Organic Analysis (0, 9, 0) 3 credits Winter term

Quantitative analysis of cereals, dairy products, beverages, fungicides, insecticides, food adulterants. Prerequisite, 1a, 1b, 1c, 2, 3. Nine hours of laboratory a week. Mr. Wells.

Laboratory fee, \$3.50, deposit \$2.00.

h 9 Water Analysis (0, 9, 0) 3 credits Spring term

Sanitary and complete analysis of waters, to determine potability or value as boiler waters. Preparation of reports of such analysis. This course should be preceded or accompanied by a course in bacteriological analysis of water. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Nine laboratory hours a week. Mr. Wells.

Laboratory fee, \$4.00, deposit, \$2. 00.

h 10 Agricultural Chemistry (3, 3, 6) 4 credits Fall term

A study of the application of chemical laws, methods and principles to problems which are essentially agricultural. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Three recitations and three laboratory hours a week. Mr. Wells.

Laboratory fee, \$2.00, deposit, \$2.00.

h 11 Inorganic Technology (3, 0, 6) 3 credits Fall term

A study of inorganic technical and commercial processes. Offered in odd numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Three recitations or lectures a week. Mr. Binnewies.

h 12 Physical Chemistry (3, 6, 6) 5 credits Spring term

Elementary course including molecular weight determinations, conductivity and electrolytic dissociation, equilibrium, polarimetry, spectroscopy, refractometry. Offered in odd-numbered years only. Prerequisite, 1a, 1b, 1c, 3, and Physics 1a, 1b, 1c. Three lectures and six laboratory hours a week. Mr. Farley.

Laboratory fee, \$5.00, deposit, \$2.00.

h 13 Organic Technology (3, 0, 6) 3 credits Winter term

A study of commercial and technical methods in the preparation of organic materials. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three lectures or recitations a week. Offered in even-numbered years only. Mr. Binnewies.

h 14 Physiological Chemistry (2, 6, 4) 4 credits Spring term

Work in metabolism, ferment action, digestive processes, nutrition, urinalysis, and like physiological phases of chemical application. An advanced course for students preparing for medical work and for advanced students in Domestic Science. Prerequisite, Chemistry 1a, 1b, 1c, 2, 6. Mr. Walter.

Laboratory fee, \$5.00, deposit, \$2.00.

h 15 Technical Analysis (0, 12, 0) 4 credits Spring term

Technical methods of analysis of paints, varnishes, lubricants, oils, fuels, iron and steel alloys. Offered in even numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3, 4. Twelve laboratory hours a week. Mr. Walter.

Laboratory fee, \$5.00, deposit, \$2.00.

h 16 Advanced Qualitative Analysis (2, 6, 4) 4 credits Winter term

Involving more difficult phases of analysis and stressing modern theories of mass action, ionic systems, etc. Offered in odd-numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 12 and Physics 1a, 1b, 1c. Two recitations and six laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$3.00, deposit, \$2.00.

h 17 Thesis (0, 15, 0) 5 credits Spring term

Required of all students majoring in Chemistry. Topic to be assigned. Fifteen laboratory hours a week. Prerequisites depend upon nature of work assigned. Mr. Dunbar.

Laboratory fee dependent upon nature of work assigned.

CIVIL ENGINEERING

PROFESSOR SNADER, MR. MAUGH

The course in Civil Engineering is planned to give a broad education in both general and scientific subjects, and a thorough training in the principles underlying all engineering, with as much special training as time will permit in those subjects belonging particularly to the field of the civil engineer.

Nearly all of the time of the junior and senior years is devoted to purely engineering subjects, the greater portion of the student's work being under the direct supervision of the Civil Engineering Department. In the senior year a choice is made of one of the two groups of subjects, Structural Engineering and Highway Engineering. Increased interest in road-building throughout the state, as well as in other states, makes it desirable that men wanting to specialize in Highway Engineering be given the opportunity to do so.

The department is provided with suitable field and drafting room equipment, including transits, levels, plane-table, solar attachment, compasses, sextant, current meter, planimeter, tapes, rods and other hand instruments.

A detailed description of each subject offered by the department follows:

1 Plane Surveying (0, 9, 0) 3 credits Spring term

Lectures, field and office work in the theory and practice of plane surveying. Field work with tape, level and transit. Much emphasis is placed on a high standard in form and style of the student's field notes and office calculations. Prerequisite, Mathematics 3 and Mechanical Engineering 3a, 3b. Nine hours of field work a week. Mr. Snader; Mr. Maugh.

Laboratory fee, \$2.00.

2 Topographical Surveying (0, 9, 0) 3 credits Fall term

Continuation of Plane Surveying with considerable practice in leveling, use of the transit, and in baseline measurements and triangulation. A study of the theory and use of the stadia and plane table. Determination of contours for topographic map. Prerequisite, Civil Engineering 1. Nine hours of field and office work a week. Mr. Maugh.

Laboratory fee, \$2.00.

3 Topographical Drawing (0, 3, 0) 1 credit Spring term

Engineering lettering and pen topography; a study of scales and contours; the plotting of profiles from contour plans; and the construction of a complete topographic map. Prerequisite, Civil Engineering 1 and 2. Three hours of drawing a week. Mr. Maugh.

h 4 Hydraulics (4, 0, 8) 4 credits Fall term

Hydrostatics and theoretical hydraulics. The flow of water through orifices, tubes, open channels, and over weirs. Losses of head due to frictional and other resistances. Prerequisite, Physics 1a, 1b, 1c, Mathematics 4, 5a, 5b. Four recitations a week. Mr. Snader; Mr. Maugh.

h 5 Theory of Structures (1, 6, 2) 3 credits Winter term

Analysis of stresses in framed structures, especially the simple types, including beams, roofs, bridges, and mill buildings under different conditions of loading. Both graphical and analytical methods are discussed and many problems are solved. Prerequisite, Physics 1a, 1b, 1c, Mathematics 6, Mechanical Engineering 5, and Civil Engineering 6a, or 6a simultaneously. Nine hours a week. Mr. Snader; Mr. Maugh.

h 6a, 6b Mechanics of Materials (3, 0, 6) 3 credits Winter term

(3, 0, 6) 3 credits Spring term

A study of the strength and elastic properties of timber, brick, stone, cast iron, wrought iron and steel. The theory of beams, columns and shafts; a study of combined stresses, impact and fatigue, true internal stresses, the application of the principle of least work and the solution of problems. Prerequisite, Mathematics 5a, 5b and 6. Three recitations a week second term; three recitations a week third term. Mr. Maugh.

h 7 Railroad Surveying (3, 0, 6) 3 credits Winter term

Reconnaissance, preliminary location methods, theory of curves and turnouts. The computation of earth-work and the estimate of costs. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1922. Prerequisite, Civil Engineering 1, 2, and 3, and Mathematics 5a and 5b. Three recitations a week. Mr. Snader; Mr. Maugh.

Laboratory fee, \$1.00.

h 8 Elements of Design of Structures (3, 0, 6) 3 credits Spring term

A continuation of Civil Engineering 5. Locomotive wheel loads on plate girders and bridge trusses. Elements of design of steel beams, plate girder bridges, truss bridges, and other structures. General design and detailing of practical problems. Prerequisite, Civil Engineering 5, 6a and 6b. Three recitations a week. Mr. Snader; Mr. Maugh.

h 9 Masonry and Reinforced Concrete

(3, 0, 6) 3 credits Fall term

A study of the manufacture and use of cement, the proportioning and properties of concrete; the occurrence of the common building stone, and the proper use of them in walls, foundations and other engineering structures. Prerequisite, Civil Engineering 6a and 6b. Three recitations a week. Mr. Sander.

h 10 Reinforced Concrete (3, 0, 6) 3 credits Winter term

The theory and design of reinforced concrete and applications to various types of engineering structures. Prerequisite, Civil Engineering 6a, 6b and 9. Three recitations a week. Mr. Snader.

h 11a, 11b Bridge Design (1, 6, 2) 3 credits Fall term

(1, 3, 2) 2 credits Winter term

Theory, designing and detailing; the making of general and detailed drawings for a plate girder, the designing and drawing of a highway bridge, and the design and making of drawings for a reinforced concrete bridge. Prerequisite, Civil Engineering 5, 6a, 6b and 8. One recitation and six hours of laboratory work a week, fall term; one recitation and four hours of laboratory work a week, winter term. Mr. Snader.

h 12 Roads and Pavements (3, 0, 6) 3 credits Fall term

The location, construction and maintenance of highways and streets. Types and methods of construction and maintenance. Road building machinery. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1923. Prerequisite, Civil Engineering 1 and 2, and Mechanical Engineering 3a, 3b. Three recitations a week. Mr. Snader.

h 13 Water Supply (3, 0, 6) 3 credits Fall term

The study of the principles underlying the selection of a pure water supply; and a study of the proper design, construction and operation of municipal water supply systems. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1922. Prerequisite, Civil Engineering 1 and 4, or 4 simultaneously, and Chemistry 1a, 1b, 1c. Three recitations a week. Mr. Snader.

h 14 Sewerage (3, 0, 6) 3 credits Winter term

The study of the principles involved in the selection, design, construction and operation of an efficient municipal sewerage disposal system. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1923. Prerequisite, Civil Engineering 4 and 13. Three recitations a week. Mr. Snader.

h 15 Irrigation Engineering (2, 0, 4) 2 credits Spring term

The principles of irrigation engineering; design, construction, maintenance and operation of works for holding and controlling the water needed for agriculture. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1923. Prerequisite, Civil Engineering 4. Two recitations a week. Mr. Snader.

h 16 Highway Engineering (2, 0, 4) 2 credits Winter term

Theory, location, planning, design. Economics of location; theory and design of highways. Effects of traffic. Properties, comparisons and selection of type of roads and pavements. Inspection and supervision of construction. Prerequisite, Civil Engineering 12. Two recitations a week. Mr. Snader.

h 17 Highway Engineering (2, 0, 4) 2 credits Spring term

Location, design, financing, organization and administration. Comparisons of roads and pavements, design. Study of standard and special specifications. Problems of financing highway improvements, methods of financing, character and planning of organization, administration methods and systems. Prerequisite, Civil Engineering 16. Two recitations a week. Mr. Snader.

h 18 Railroad Surveying (0, 6, 0) 2 credits Spring term

A continuation of Civil Engineering 7. Actual field practice in the location of a short line of railroad, from the reconnaissance to the final location, and the making of the necessary maps and profiles. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1922. Prerequisite, Civil Engineering 1, 2, 3 and 7. Six hours of field work a week. Mr. Snader; Mr. Maugh.

Laboratory fee, \$2.00.

h 19 Structural Steel Design (1, 6, 2) 3 credits Spring term

Lectures on shop practice in making drawings. Theory and actual practice in designing connections, the design of beams, bearings, columns, girders, grillage foundations and roof truss. Prerequisite, Civil Engineering 5, 6a, 6b and 8. One recitation and six hours of drawing a week. Mr. Snader.

h 20 Higher Structures (2, 0, 4) 2 credits Spring term

A study of continuous, draw, cantilever and suspension bridges, and metallic arches. The theory and design of masonry dams and arches. Prerequisite, Civil Engineering 5, 6a, 6b, 8 and 11a, 11b. Two recitations a week. Mr. Snader.

h 21 Drainage Engineering. (1, 0, 2) 1 credit Spring term

Study of the development, importance, and economic value of drainage from the standpoint of reclamation of land. Underlying theory and application of engineering principles, upon which proper practice and drainage rests. Location, design and construction of drainage works. Juniors and seniors will take this subject at the same time and it will be given in alternate years only. It will be given in 1922. Prerequisite, Civil Engineering 4. Open only to civil engineering students. One recitation or lecture a week. Mr. Snader.

h 22 Contracts and Specifications (1, 0, 2) 1 credit Spring term

Synopsis of the law of contracts as applied to engineering construction; a study of typical contracts and specifications, and survey descriptions. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1923. Prerequisite, junior standing in engineering. One recitation and lecture a week. Mr. Snader.

h 23 Scientific Management (1, 0, 2) 1 credit Fall term (1, 0, 2) 1 credit Winter term

Principles of scientific management of industry and engineering works. Scope of the science of management; location and planning of plants and equipment. Fundamental considerations as to men, materials, methods and costs. Determination and distribution of material and labor costs. Open only to junior and senior civil engineering students. Given as elective. One recitation and lecture a week. Mr. Snader.

COMMERCE

PROFESSOR PRATHER, MISS UMMEL

The Department of Commerce offers a complete college course leading to the degree of Bachelor of Science in Commerce, and a one year vocational course for those who must enter business with less preparation than a full college course.

Never in the history of our country were young men and young women in greater demand in commercial lines than at the present time, and we believe that in order to achieve the largest measure of success, and to perform his duties to himself and society, the business man should have a broad, general education as well as a course adapted to specialized business. Such preparation has been provided for in the four years course. See plans of study of college courses.

This course is also intended to train those expecting to

week are required in the Vocational Course, for which three credits are given. Limited credit subject. Miss Ummel.

7 Secretarial Practice No credit Spring term

As far as possible practice in college offices or with business firms in town. Also a great deal of class room practice in taking dictation and transcribing on the typewriter. Two dictaphones are in use in this course. Mr. Prather and Miss Ummel.

8 Pharmaceutical Accounting (0, 4, 2) 2 credits Fall term

This course is given only to students taking the courses in Pharmacy. Four hours of recitation and laboratory work a week. Mr. Prather.

9a, 9b, 9c Accounting II (0, 6, 3) 3 credits Each term

This is an advanced course and may be taken instead of Stenography by those taking the four years college course in Commerce. Prerequisite, Accounting 1. Six hours of recitation and laboratory a week. Mr. Prather.

h 10 Salesmanship (5, 0, 10) 5 credits

This course will be a study of the science and art of selling. Open only to junior and senior students in the Commercial course.

h 11 Advertising (2, 0, 4) 2 credits

This course will be a study of advertising in all its phases. Fundamental principles, where and how advertising can be used most effectively, and the selection of advertising mediums are important subjects that will be covered. Students will also be required to write copy, design layouts, select color and type, and plan campaigns. Open only to junior and senior students in Commerce.

h 12 Creamery Accounting (0, 6, 3) 3 credits Spring term

Given only to students taking the course in Dairy Manufactures. Four hours of laboratory and recitation work a week.

DAIRY HUSBANDRY

*PROFESSOR LARSEN, ASSISTANT PROFESSOR WRIGHT, ASSISTANT PROFESSOR OLSON, MR. CULHANE, MR. BIGGAR, MR. GILCREAST.

The Dairy Husbandry Department offers a four-year collegiate course, the last two years of which are devoted chiefly to special dairy studies, and a three-month creamery course.

The four-year course has been outlined with the special view of fitting young men to become teachers and investigators of dairying in public schools, agricultural colleges and experiment stations; inspectors of creameries and dairy products in municipal, state and government service, and superinten-

*Given leave of absence December 19, 1920.

dents of creameries and dairy farms. In this course either dairy production or dairy manufactures may be chosen, the choice being made at the beginning of the junior year. For graduation there is required at least one summer's work either on a dairy farm or in a creamery or other dairy plant, depending on the work in which the student is specializing.

The three-month creamery course is given with the view of training men to become successful operators of creameries, cheese factories, and central plants.

The demand for good men properly trained along dairy lines is great. Compensation for dairy and creamery work is good. Worthy students can depend upon the co-operation of the department in securing suitable work.

The Dairy Husbandry Department operates on a commercial basis a well equipped creamery in which butter, cheese, and ice cream are manufactured throughout the year. The department occupies a two-story brick building. On the first floor are the engine room, creamery rooms with full equipment for butter, cheese and ice cream making, refrigerating rooms, locker room, and a large laboratory used for instructional purposes. On the second floor are located class rooms, offices, dairy bacteriology laboratory, chemistry research laboratory and reading room.

The dairy herd, which consists of representatives of the principal dairy breeds, affords an excellent opportunity to become acquainted with dairy types. The dairy barn is large and well equipped. Milking machines are in daily use, thus affording students opportunity to acquire practical knowledge regarding their operation and care.

Experiments relating to feeding, breeding, and care of dairy stock and the manufacture of dairy products are in progress at all times. Students may have the advantage of keeping in touch with these experiments, note manner of outlining and executing investigational work, and profit from results. Advanced students may arrange to assist in some of this work.

The following work is offered:

- 1a, 1b **Farm Dairying** (2, 3, 4) 3 credits Fall term
(2, 3, 4) 3 credits Spring term

Testing of milk and its products for fat, acid, and common adulterations. Study of cream separators, farm buttermaking and cottage cheese. Study of the purpose and importance of dairy farming; breeds of dairy cattle and characteristics of each; care and feeding of the dairy herd; management of the dairy herd; disposing of dairy products. Study of breed type and conformation and the judging of dairy cattle. Two recitations and three hours of laboratory work a week. Mr. Olson.

- h 2 **Dairy Inspection** (3, 6, 6) 5 credits Fall term

Thorough study of Babcock test for fat; the lactometer and its application; tests for acidity of dairy products; tests for moisture in butter; influence and detection of different preservatives and adulterations; scoring butter, cheese and milk; Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

- h 3 **Dairy Bacteriology** (2, 6, 4) 4 credits Winter term

Bacteriological principles as related to dairying; contamination of milk; fermentations of milk and their control; relation of disease bacteria to milk; preservation of milk for commercial purposes; bacteria as related to the manufacture of butter, cheese, and ice cream. Prerequisite, Dairy 1 and General Bacteriology. Two recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

- h 4 **Manufacture of Butter** (3, 6, 6) 5 credits Spring term

Receiving, sampling and separation of milk and cream; preparation and use of starters; pasteurization and ripening of cream; principles of churning; washing, salting, working, packing and marketing of butter. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright; Mr. Culhane.

Laboratory fee, \$2.00.

- h 5 **Manufacture of Cheese** (3, 6, 6) 5 credits Fall term

Study of milk as applied to cheese-making; manufacture of hard and soft cheeses; principles involved in the setting, cutting, cooking, dipping, milling, salting, pressing, curing, and marketing of cheese. Given every other year. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright.

- h 6 **Dairy Management** (2, 3, 4) 3 credits Spring term

Methods of improving the dairy herd; methods of keeping records of feed, milk and dairy herd. Extent to which dairy farming is practiced and under what conditions it is best applicable. Arrangement and construction of dairy farm buildings; details of herd management; advanced judging of dairy cattle. Prerequisite, Dairy 1. Two recitations and three hours of laboratory work a week. Mr. Olson.

- h 7 **Dairy Technology** (3, 6, 6) 5 credits Fall term

A study of market milk and ice cream making. Also the utilization of milk and its products outside of the scope ordinarily embraced un-

der dairying; value of milk as a food; preparation of certified, modified, standardized, fermented, and condensed milk; the manufacture of casein, milk ivory, milk sugar, renovated butter and oleomargarine. Given every other year. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

h 8 Dairy Research (2, 0, 4) 2 credits Winter term

Views held by different authorities on important dairy subjects; a digest of recent dairy work of the experiment stations; comparative dairying as practiced in the leading countries; reference and reports. Prerequisite, Dairy 1, 2, 3, 4 and 6. Mr. Wright; Mr. Olson.

9 Dairy Practice

Credits will be given for a suitable report of satisfactory work in a commercial creamery or other dairy plant. Students specializing in dairy manufactures must have some practical experience of this nature.

10 Domestic Dairying (1, 3, 2) 3 credits Fall term

Such phases of dairying as will be of greatest interest and value to ladies and home life; properties and uses of milk and its component parts in the home and for commercial purposes; relation of germs to quality of milk from consumers' standpoint; effects and detection of adulteration of dairy products; care and handling of dairy products in the home; making and judging of cheese and butter. Prerequisite, Chemistry 1a, 1b, 1c. One recitation and three hours of laboratory work a week. Mr. Olson.

h 11 Advanced Inspection of Dairy Products

(1, 9, 2) 4 credits Winter term

Properties of the component parts of milk and its products; condensed and powdered milks; butter from neutralized cream; leading types of cheese; brief survey of the milk of other animals than the cow; abnormal milk; substitutes for butter; determination of the important constants of butter fat. Text: Richmond, Dairy Chemistry. Prerequisite, Dairy 2 and Quantitative Chemistry. One recitation and nine hours of laboratory work a week.

Laboratory fee, \$2.00.

h 12 Advanced Dairy Bacteriology (2, 6, 4) 4 credits Spring term

A continuation of Dairy Bacteriology (Dairy 3); isolation of the bacteria of special importance in the dairy industry; characteristics of the bacteria that cause undesirable fermentations, bitter milk, slimy milk, gargetty milk, gassy cheese, rancid butter, etc.; desirable bacteria in milk; pure cultures widely used in connection with fermented milk drinks. Prerequisite, Dairy 1, 2 and 3. Two recitations and six hours of laboratory a week. Mr. Wright.

Laboratory fee, \$2.00.

h 13 Advanced Judging of Dairy Cattle and Dairy Products

(0, 6, 0) 2 credits Fall term

A course designed to acquaint the student with features of show ring judging. A close study of breed types and characteristics; practice in giving oral and written reasons; competitive judging. The judging of cheese, butter and milk will be on the basis of the score cards used by the

U. S. Department of Agriculture with special attention paid to the rules of the contest held at the National Dairy Show. Students expecting to take this course should notify the department before September 1st, as a part of the work is given in connection with the State Fair, preparing a team to represent the College in the student's National Judging Contests. Prerequisite, Dairy 2 or 6. Open only to juniors and seniors. Six hours of laboratory work a week. Mr. Wright; Mr. Olson.

h 14 Dairy Seminar (2, 0, 4) 2 credits Spring term

General discussion of important dairy subjects; outside references and frequent reports and papers required; modern trend of the dairy industry. Prerequisite, Dairy 1, 2, 3, 4 and 6. Two recitations a week. Staff.

h 15 Dairy Cattle Feeding (3, 0, 6) 3 credits Fall term

Study of milk production and secretion; feeding standards; dairy feeds; methods of preparing feeds and feeding dairy cattle. Prerequisite, Animal Nutrition. Mr. Olson.

h 16 Advanced Study of the Dairy Breeds

(3, 0, 6) 3 credits Winter term

Origin, history and characteristics of the leading dairy breeds. Study of families, and noted producers and show ring winners. Study of leading breeders, and their contribution to the breed. Prerequisite, Dairy 6. Mr. Olson.

h 17 Management of Dairy Plants (2, 3, 4) 3 credits Spring term

Organization and construction of factories; creamery refrigeration; purchases of raw material, other factors in management. Text: Mortensen, Management of Dairy Plants. Prerequisite, senior standing. Mr. Wright.

EDUCATION

PROFESSOR WILLIAMS, ASSISTANT PROFESSORS WISEMAN,
HARTNETT, McARTHUR, JOHNSON

The Department of Education has for its chief purpose the training of teachers, principals, supervisors, and superintendents for the schools of South Dakota. Provision is made and especial attention is given to the training of agricultural, home economics, and industrial teachers.

Students who expect to teach should select their field as early as possible in their college course by consulting with the head or other members of the department. The following explanation should be carefully noted:

Three kinds of certificates are granted by the State Superintendent of Public Instruction on college credentials,—the Life Professional Diploma, the State Certificate and the Vocational Certificate.

1. The Life Professional Diploma is the highest one issued and is valid for teaching in all the public schools of whatever grade.* It is issued to graduates of the College who have taken fifteen semester hours or twenty-two and one-half term-credit hours of work in the Department of Education. Since eight years of experience in teaching is required, a Provisional Professional Diploma is granted to the graduates of the College who have not had the required experience in teaching but who can satisfy the other requirements. The Provisional Diploma is valid for two years but may be renewed until the required experience has been required.

2. The State Certificate is valid for teaching the first nine grades of the public schools for five years and is renewable. To secure this certificate eighteen months' teaching is required. A Provisional State Certificate is issued to those who have not had the necessary teaching experience but who can satisfy the other requirements. The Provisional Certificate is valid for two years and is renewable.

3. The Vocational Certificate is valid for five years and authorizes the holder to teach such subjects as music, art, commercial subjects or manual training. This certificate is granted on essentially the same conditions as the State Certificate (or Provisional State Certificate) excepting that the applicant must show proficiency in the particular vocational subject or subjects for the teaching of which the certificate is desired. No experience is required to secure this certificate.

To secure these certificates there are academic, residential and professional requirements to be met as follows:

1. Academic. All of these certificates require the following high school credits.

3 units of English

1 unit of Algebra

1 unit of Plane Geometry

1 unit of Natural Science

1 unit of American History and civics

College students who may be short any of the high school

*Special requirements are made in connection with Smith-Hughes high school work in agriculture and home economics (see paragraph "a" under professional requirements on the following page).

requirements may substitute college credits of similar subject matter.

2. Residential.

a. For the Life Professional Diploma or the Provisional Life Professional Diploma a minimum of 258 weeks of school attendance above the eighth grade is required. (Four years of college work.)

b. For the State Certificate or the Provisional State Certificate and the Vocational Certificate, a minimum of 196 weeks of school attendance above the eighth grade is required. (Two years of college work.)

3. Professional. Applicants for any of these certificates must secure not less than $22\frac{1}{2}$ credit hours in the Department of Education.

a. Life Professional Diploma (or Provisional).

The State College courses in Agricultural Education and in Home Economics Education lead to this Diploma and also satisfy the requirements for teaching in Smith - Hughes schools. For students taking a General Science course or specializing in Manual Training, Athletics or Physical Training, etc., courses in Educational Psychology, Principles of Teaching and Observation and Practice Teaching are required. Students should consult the head of the Department of Education before taking electives in the department to be assured that they can satisfy this professional requirement.

b. State Certificate (or Provisional) or Vocational Certificate.

For those seeking one of these certificates two years of college work are required, including courses in Educational Psychology and Principles of Teaching, a minimum of 54 sixty minute hours of Observation and Practice Teaching, and a total minimum of $22\frac{1}{2}$ term-credit hours in Education.

The School of Agriculture, a secondary school with a four years course, is under the direction of the head of the Education Department, an arrangement which facilitates the provision of opportunities for observation and practice teaching. A limited number of classes in conditioned subjects (upper grade preparatory subjects) are also available for practice

teaching. They are also under the direction of the head of the Education Department. Additional opportunities for observation and practice teaching are offered in the public schools of Brookings.

South Dakota State College is fully accredited in the North Central Association of Colleges and Secondary Schools and credits are honored for certificates in other states on equal terms with those of other institutions of high rank. Graduates of the College are occupying excellent teaching positions in many of the best high schools and colleges of South Dakota and other states. The Bureau of Recommendations, which furnishes free placement service to South Dakota State College students and graduates who meet the requirements in Education, is located in the office of the Education Department. Eligible students who desire teaching positions should file their applications with the Bureau.

The following is a description of the Education courses offered: Courses 21 to 30 are planned for students of sophomore rank but may be taken by others by permission. Courses 31 to 40 are planned primarily for juniors and courses above 40 for seniors and graduates.

21a Introductory Course in the Principles of Education

(3, 0, 6) 3 credits Fall term
Summer—First term

Selected biological, psychological, sociological and statistical material will be treated in such a way as to give the student not only a survey of the fundamental principles of education but also a good basis for more intensive courses in Education.

21b Principles, General Methods and Technique of Teaching

(3, 0, 6) 3 credits Winter term
Summer—First term

The types of lessons as determined psychologically and pedagogically, are analyzed in some detail. Critical study of typical lesson plans and some practice in writing them, observation and criticism will receive some attention.

21c Scientific Methods Applied to Common School Subjects

(3, 0, 6) 3 credits Spring term
Summer—First and second terms

This is a course in the psychology and pedagogy of common school subjects. It traces the physical and mental development of children up to the adolescent period and deals in detail with the mental processes involved in the learning of each of the elementary school subjects. Especial emphasis will be placed upon reading.

22 History of Modern Elementary Education

(3, 0, 6) 3 credits Spring term

Summer—First term

A short review of medieval social life is followed by a brief survey of schools in medieval cities. Then the vernacular influence of the Reformation and Counter Reformation, upon the development of modern social forces, the gradual secularization of social life and education, the reform movements, systems and practices by such men as LaSalle, Lancaster, Rousseau, Pestalozzi, Herbart, Froebel, Spencer and others. Text books: Parker's History of Modern Elementary Education. Lectures and reports.

23 History of Education in United States

(3, 0, 6) 3 credits Spring term

Summer—Second term

The evolution of public school systems in the United States. Special attention to development since the civil war and to present organization and tendencies. Lectures and reports. Textbook: Cubberley's Public Education in United States.

24 History of Education

(3, 0, 6) 3 credits

A survey of Greek, Roman and early Education; Renaissance periods; intensive study of modern educational movements. This course may be substituted for Course 22 or 23. Textbook: Graves, Student's History of Education or Cubberley, The History of Education.

25 Rural Education

(3, 0, 6) 3 credits Spring term

Rural life conditions, need for rural life organization, fundamental principles involved, noteworthy examples of new types of rural school organization, new curricula, the new teacher, new buildings, etc. Lectures, readings, reports and observations. Mr. Wiseman.

26 The Teaching of Rural School Agriculture

(3, 0, 6) 3 credits

Summer—First and second terms

An intensive study will be made of the subject matter in agriculture to be taught in the elementary rural school and of methods to be used in presenting it. Emphasis will be laid on the local aspects of agriculture and correlations with other subjects. Work will consist of readings, discussions, making outlines of subject matter, lesson plans, collecting and using illustrative material and farm bulletins. Mr. Wiseman.

h 31 Principles of Education

(4, 0, 8) 4 credits Fall term

This is a comprehensive and intensive course. It surveys the fundamental principles of education and applies this material to the fields of Secondary Education in some detail. Textbook, lectures and reports. Mr. Williams.

h 31A Introduction to Agricultural Education

(3, 0, 6) 3 credits Fall term

This course deals particularly with the organization and administration of departments of vocational agriculture in our high schools. Enough of the history of agricultural education is given so that the student may interpret the problems of today in that field. Study is made

of aims, course of study, teacher qualifications, types of schools, etc., under state and federal requirements. Lectures, readings, discussions, special reports and observations. Mr. Wiseman.

h 32 Elementary Educational Psychology (4, 0, 8) 4 credits Winter term

This course gives a survey of the fundamental principles of psychology in connection with educational theory. A study of original tendencies and the nature of the mental processes will constitute an essential part of the course. Required for certification. Lectures, text book and collateral readings. Mr. Williams.

h 33 Principles and Methods of Teaching in High Schools

Summer—First term
(4, 0, 8) 4 credits Spring term

A general methods course for prospective high school teachers. The course deals with the problem of class room teaching. The following topics are treated: Selection and arrangement of subject matter, in class room management, teaching foreign languages, training in expression, in enjoyment, in reflective thinking, individual differences, supervised study, the use of books, laboratory methods, questioning and measuring the results of teaching. Required for certification. Text book: Parker's Methods of Teaching in High Schools. Mr. Williams.

h 34 The Organization and Administration of Secondary Education

Summer—First term
(3, 0, 6) 3 credits Spring term

This course deals with the practical problems of high school administration including the relation of the high to the elementary school and to the college; the making of programs, the reorganization of material of the secondary education; social organization; moral instruction and training; the Junior High School; the history and development of this reform movement; the essential elements of the program of studies, its place in the school system. Mr. Williams.

h 35 Genetic Psychology (3, 0, 6) 3 credits Spring term

This course traces mental development as found in animals and in men. The development of the child's mental processes in the early years of his life, with a view to proper methods of education is given especial attention. Mr. Williams.

h 36 Vocational Education (3, 0, 6) 3 credits Spring term

This course is a survey of the whole field of vocational education. A study is made of the economic and sociological bases for the work and the forces back of the movement with enough of the history to interpret the problems involved. Study is also made of the general types of vocational work, federal and state legislation promoting it, standards set up, teaching vocational work and relations to non-vocational work. Lectures, discussions, readings and reports. Mr. Wiseman.

h 37 Vocational Psychology (2, 0, 4) 2 credits Spring term

The application of the principles of psychology and of mental tests to the problem of the determination of vocational aptitudes. The psychology of suggestion as applied to advertising and to salesmanship. Mr. Williams.

h 38 Abnormal Psychology (3, 0, 6) 3 credits Spring term

A study of subnormality and the common pathological types. The phenomena of duplex and multiple personality and the methods of psycho-analysis will receive some attention. General and special causation of mental unsoundness in relation to childhood, adolescence and adulthood. General principles of diagnosis, management and treatment. Mental hygiene and education. Mr. Williams.

h 39 Ethics (2, 0, 4) 2 credits Spring term

A study of the fundamental principles of conduct and their application to education and to the vocations.

h 41 Advanced Educational Psychology 3 credits Fall term

A study of learning in animals and in man, the conditions and methods of economical learning, the rates and limits of improvement, individual differences, transfer, mental fatigue and mental hygiene. This course gives some attention to individual and group mental tests, to psychological, pedagogical and anatomical age. Prerequisite, course 32 or the equivalent. Mr. Williams.

h 42 Educational Measurements and Statistics

(3,0,6) 3 credits Winter term

Summer—First term

A study of the standard test movement in education and of the principal tests designed to measure achievement in elementary and secondary school subjects. Statistical methods will be analyzed and practice given in the use of them. The value of educational measurement to administrators, teachers, to other school officers and to the public. Mr. Williams.

h 43 Educational Organization and Administration

(3,0,6) 3 credits Winter term

Summer—First term

This course deals with types of schools, the teaching staff, the tasks of the various school officials, the methods employed in supervision, courses of instruction, and school finance. Textbook, lectures, discussions and reports including surveys. Mr. Williams and Supt. Johnson.

h 45 Social Psychology (2, 0, 4) 2 credits Fall term

An analysis of mind as it is found operating in the various social groups and the interpretation of the various types of social consciousness for the purpose of arriving at principles of social control. Instincts, sentiments, suggestibility, imitation, invention and group control are essential topics of the courses. Text books: McDougall's Social Psychology; Wallass' The Great Society. Mr. Williams.

h 45a Educational Sociology (3, 0, 6) 3 credits Fall term

A study is made of the ever changing social order and its institutions, emphasizing the educative functions of each. Study will be made of the increasing social demands on the school as an institution and the demands thru socialization of its organization, curriculum, methods and activities. Special attention will be given to the development of vocational education as a phase of this process. A study of actual surveys will be made. Lectures, discussions, readings and reports. Mr. Wiseman.

h 46 The Philosophy of Education (2, 0, 4) 2 credits Fall term

An advanced course in which an attempt is made to organize all of the principles of education into a comprehensive theory. Mr. Williams.

h 47 The Curriculum (2, 0, 4) 2 credits Spring term

A critical study of objectives and material of education applied to common and high school subjects in some detail. Criteria for the evolution of the material will be set up on the basis of present day sociological, psychological and philosophical educational principles. Mr. Williams.

h 48 Industrial Education (3, 0, 6) 3 credits Spring term

This course is planned for teachers and supervisors of industrial education, for superintendents and principals, and for others interested in the organization and administration of industrial courses. The course deals with the place of industrial activities and industrial training in the various levels of instruction. Pre-vocational work in the junior high school; unit trade courses in the senior high school; and continuation, cooperative, apprentice, evening and factory schools. Lectures, recitations, readings and reports. Mr. Hartnett.

h 49A Special Methods in Vocational Agriculture

(4, 0, 8) 4 credits Winter term

This course deals particularly with teaching vocational agriculture in Smith-Hughes schools, aims, course of study, selection and ordering of subject matter, methods in field, laboratory and class room. Special attention given to the home project as type of supervised practice work. Lectures, required readings, discussions, reports, observations and laboratory work. Mr. Wiseman.

h 49Ea Special Methods of Teaching Home Economics

(3, 0, 6) 3 credits Fall term

Prerequisites are Educational Psychology, History of Education and Principles of Teaching. Study of the standards and special methods, types of schools, courses of study, lesson plans, observation reports, school organization and management in relation to Home Economics teaching. Discussions, observations, readings and demonstrations. Miss McArthur.

h 49TE The Teaching of English in Secondary Schools

3 credits Summer First term

h 49TH The Teaching of History and Civics in Secondary Schools

2 credits Summer First term

h 49TM The Teaching of Mathematics in Secondary Schools

1 credit Summer First term

h 49TP The Teaching of Physics in Secondary Schools

1 credit Summer First term

Mr. Mathews

h 49TC The Teaching of Chemistry in Secondary Schools

1 credit Summer First term

h 49TB The Teaching of Biology in Secondary Schools

1 credit Summer First term

Mr. Petry

h 49TCS The Teaching of Commercial Subjects

1 credit

Any Quarter

Mr. Prather

h 49PTA Practice Teaching in Agriculture

3-5 credits

Spring term

Mr. Wiseman and Mr. Beard

h 49PT Practice Teaching in Elementary and Secondary Schools

2-5 credits

Any term

Arrangements should be made with the Department of Education prior to registration. Mr. Williams and Supt. Johnson.

h 51 Seminar

2-5 credits

Any term

Investigation of a special problem by each individual student constitutes an essential part of the course. For graduates and advanced undergraduates who satisfy the instructor of their ability and disposition to undertake the work. Time to be appointed.

h 52 Seminar in Agricultural Education

2-4 credits

Any term

For senior and graduate students. Particular problems dealing with instruction in vocational agriculture will be chosen, such as project work, course of study, farm enterprise analysis, the local survey, etc. A thorough study is made through readings and the work actually carried out, recorded and reported. Individual work. Mr. Wiseman.

Education Club. Monthly meetings, first Monday evening of each month. Required of regular faculty members of the Education Department. Open to graduate students and to advanced students in Education. Other faculty members invited to attend and to become regular members of the Club, assuming program duties.

Courses in Agricultural Extension Instruction

In order to meet the large demand for instruction in methods of conducting agricultural extension work the following courses have been outlined. These can not be counted as education work towards the requirements for teaching certificates.

The following courses are designed as electives for junior and senior students who later expect to engage in some form of extension work as a county extension agent, supervisor or subject-matter specialist.

1 History of Agricultural Extension Work (2,0,4) 2 credits Winter term

Origin, history and development of extension work in agriculture and home economics. Plan of organization, administration, methods of financing and relation to county, state, federal governments and to farm organizations. Plan and program of work from the standpoint of community, county and state. Supplementary practical work in visiting county and state phases of extension work in actual operation.

h 2 Extension Methods

(2, 0, 4) 2 credits

Spring term

Detailed study of approved methods used in conducting extension

sion work, such as office management, publicity, lectures, extension schools, farm tours, demonstrations, exhibits, etc. (Course 1 advised as a prerequisite.)

h 3 Training Course for County Extension Agents

Credits to be arranged— Summer vacation.

A practical course of apprenticeship covering a twelve weeks period during the summer vacation and open to either men or women desirous of becoming county extension agents. This is designed to afford prospective extension workers a first hand opportunity to learn the practical aspects of county extension work. Special arrangements should be made with the Director of Extension Service as only a few students can be accommodated.

ELECTRICAL ENGINEERING

PROFESSOR BRACKETT

The purpose of the work offered in Electrical Engineering is to impart to the student a practical knowledge of the principles of applied electricity. A well equipped laboratory is provided for the use of the student to supplement the lecture and recitation work of the class room. The laboratory equipment consists of generators and motors of both direct and alternating current types, transformers and measuring instruments of different types and classes for recording and measuring currents, pressures and speeds. A sixty-cell storage battery is used in connection with the work in photometry. Various types of lamps, arc, and incandescent, lampbanks, rheostats, and other apparatus are also available.

The student will be taught how to set up and adjust for the best conditions of operation all the usual types of dynamos, motors, transformers and standard auxiliary apparatus. Much additional laboratory work will be given to develop a clear understanding of the fundamental principles involved in the design of modern electrical machinery and in the most advanced engineering practice. The knowledge to be derived from this work is very important in the practical operation of electrical machinery and systems, but it cannot be obtained directly under the conditions of commercial service, where most of the apparatus must be used in one way only at all times.

Special elective courses in a wide variety of subjects will be given whenever there is sufficient demand. Additional and

advanced work may be taken in practically every line listed below. Classes may also be organized in the study of current electrical journals; telephone engineering; wireless telegraph and telephone; electric traction; electric power stations; long distance transmission and in other similar lines. The prerequisite, the credit, the time, and other conditions must be passed upon by the proper authorities before any of these classes will be formed.

1a Applied Electricity (0, 3, 0) 1 credit Fall term

Elementary principles of electric circuits; systems of house wiring; underwriters rules and specifications; splicing wires, soldering, etc.; simple tests of electric appliances, and repairing the same. Course given only by special arrangement. Mr. Brackett.

h 3 Electricity and Magnetism (3, 4, 8) 5 credits Fall term

Electric and magnetic circuits; measurements of electric and magnetic properties; principles of dynamos and motors. Prerequisite, Mathematics 5b, Physics 1a, 1b, 1c. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

h 3a Electrical Machinery (3, 6, 6) 5 credits Fall term

Principles of electric and magnetic circuits; direct current dynamos and motors; alternating current generators, motors and transformers; methods of connecting and operating these, all very briefly studied. Prerequisite, same as for Electrical Engineering 3. This course should be taken by engineering students who do not expect to take more advanced electrical courses. Three recitations and two three-hour laboratory periods a week. Mr. Brackett.

Laboratory fee, \$2.00.

h 4 Direct Current Dynamos and Motors (3, 4, 8) 5 credits Winter term

Construction and operation of direct current machines, their characteristics, efficiencies and other properties. Prerequisite, Electrical Engineering, 3. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

h 5 Alternating Current Electricity (3, 4, 8) 5 credits Spring term

Laws of alternating currents; inductance; capacity; principles of alternating current generators, motors and transformers. Prerequisite, Electrical Engineering 4. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

h 6 Advanced Alternating Currents (3, 4, 8) 5 credits Fall term

Advanced study of the subjects in course 5; more complete tests of alternating current machines; study of additional types of machines. Prerequisite, Electrical Engineering 5. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

- h 7 Electric Lighting** (3, 4, 8) 5 credits Winter term
 Cost of producing electric power; distribution; wiring; types of lamps; location of lamps for interior and street lighting. Prerequisite, Electrical Engineering 6. Three recitations and one four-hour laboratory period a week. Mr. Brackett.
 Laboratory fee, \$2.00.
- h 8 Electric Transmission and Power** (3, 4, 8) 5 credits Spring term
 Uses of electric motors; advantages of different types; individual and group drives; transmission; converters; substations; regulating apparatus. Prerequisite, Electrical Engineering 7. Three recitations and one four-hour laboratory period a week. Mr. Brackett.
 Laboratory fee, \$2.00.
- h 9a Dynamo Design** (0, 6, 0) 2 credits Winter term
 Computation, description and drawings for a direct current dynamo or motor. Prerequisite, Electrical Engineering 5. Six laboratory hours a week. Mr. Brackett.
- h 9b Dynamo Design** (0, 6, 0) 2 credits Spring term
 Course 9a continued. Mr. Brackett.
- h 10 Electrical Problems** (3, 0, 6) Winter term
 Special problems on various lines of application. Three recitations a week. Mr. Brackett.
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ENGLISH

PROFESSOR MULLENBACH, ASSOCIATE PROFESSOR POWERS, ASSISTANT PROFESSOR McCARTY, ASSISTANT PROFESSOR GILLARD, ASSISTANT PROFESSOR MARSTON.

The required courses in English aim to give the student that command of the English language and literature which every educated person should have. But they are not intended to fit students to be teachers of high school English. Those who intend to teach some English along with their technical work should take 7a, 7b, 7c in the sophomore year and then elect in the junior and senior years at least 6a, 6b, 6c and either 8a, 8b, 8c, or 9a, 9b, 9c. Those who wish to do further work in English should elect as many other courses in English as are available. Any student who wishes to do more than the required work in English should consult the head of the department for advice.

- 1a, 1b, 1c Rhetoric** (3, 0, 6) 3 credits Each term

The main purpose of this course is to familiarize the student with the principles of rhetoric and to enable him to use them effectively in composition. To this end written work is demanded constantly and is carefully criticized both in the class room and in conferences between the instructor and the individual student. The work is supplemented with

reading, in the choice of which the student is allowed considerable latitude. Prerequisite, the English of the high school course; required of all freshmen. Three recitations a week. Miss Mullenbach.

2 Advanced Composition (3, 0, 6) 3 credits Spring term

This course is given as an elective for those who wish to do further work in composition. Besides being given as a regular course in (a) advanced composition, it may take a variety of other forms, depending on the needs and wishes of the majority of the class. It may be given as a course in the writing of (b) farm bulletins, or in the writing of (c) the short story, or as a course in (d) technical composition for engineers. Three recitations a week.

6a, 6b, 6c Survey of American Literature (2, 0, 4) 2 credits Each term

Every student must take this course or English 7a, 7b, 7c in his sophomore year. This course is accompanied by 20a, 20b, 20c. The course is open also as an elective for those who have taken English 7a, 7b, 7c. The method pursued will be similar to that in English 7a, 7b, 7c. Prerequisite, English 1a, 1b, 1c. Two recitations a week. Mr. Powers.

7a, 7b, 7c, Survey of English Literature (2, 0, 4) 2 credits Each term

Every student must take this course or English 6a, 6b, 6c in his sophomore year. This course is accompanied by 20a, 20b, 20c. The course is open also as an elective for those who have taken English 6a, 6b, 6c. This is a general course in literature, having as its main aim to show the student the connection between literature and life. A guiding manual will be used but the chief emphasis will be placed upon typical selections from representative authors and upon the student's own powers of observation. Special reports, oral and written, upon assigned topics will be required of each student, such reports to be delivered before the class as critical audience. There will also be frequent written recitations. Any student who expects to elect further work in English should take this course in the sophomore year. Prerequisite, English 1a, 1b, 1c. Two recitations a week. Mr. Marston.

8a, 8b, 8c English Drama, Through Shakespeare (3, 0, 6) 3 credits Each term

The first term of this course will deal with pre-Shakespearean drama; the second and third terms will center upon Shakespeare, all studied from the point of view of development of evolution. No student should begin this course unless he intends to take the full three terms. Students may enter the course at the beginning of the second term but not at the beginning of the third. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); alternates with 9a, 9b, 9c; given in 1922-23; elective. Three recitations a week.

h 9a, 9b, 9c Nineteenth Century Poetry (3, 0, 6) 3 credits Each term

The first term will deal with the poets of the Romantic Movement, the second with Tennyson, and the third with Browning. Students are advised to take the series but may take any single term of the work. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c). Two recitations a week; Given in 1922-23.

h 10a, 10b, 10c Modern Literature (3, 0, 6) 3 credits Each term

The first term will be devoted to the study of the drama, the second to the novel, the third chiefly to the short story and poetry. Any term may be taken separately. See general statement following course 12. Prerequisite, English 6a, 6b, 6c or 7a, 7b, 7c; elective. Three recitations a week. Miss Gillard.

h 11 The English Novel (3, 0, 6) 3 credits Fall term

This course deals with the evolution of the English novel to about the end of the nineteenth century. The class will read a novel each week. Students are warned that this course will be principally reading and that the expense for text-books is likely to be higher than for other courses. Two hours recitation, remainder reading; prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); elective. Three recitations a week.

12 The English Essay (3, 0, 6) 3 credits Winter term

This course will be given either as a study of the general development of the English essay as seen in its chief exponents or as a specialized study of the scientific essay, according to the needs and wishes of the class. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); elective. Three recitations a week.

Courses 10a, 10b, 10c and 11, 12, 2 form a double interlocking series. Ordinarily, only one of the courses will be given each term, the particular one to be decided by the majority of the class. If, however, there is sufficient demand and the schedule will permit, both courses may be given.

h 13a, 13b, 13c Literature of The Middle West

(3, 0, 6) 3 credits Each term

This course aims to give a survey of the writers of the Middle West together with a consideration of the social, political and historical ideas which furnished the background for their literary expression. The study will begin with the close of the Civil War and conclude with present day writers. Two recitations a week. Given in 1922-23.

20a, 20b, 20c, Extempore Speaking (1, 0, 2) 1 credit Each term

Required of all candidates for degrees. This course accompanies English 6a, 6b, 6c and English 7a, 7b, 7c. Practice in various forms of extempore speech. Attention to selection and organization of material. The purpose of the course is to assist the student in acquiring an effective oral style—simple, clear, direct. Weekly extempore speeches are required of the class. Sections limited to 20. One recitation a week. Mr. McCarty.

21a Argumentation and Debating (2, 0, 4) 2 credits Fall term

The nature, kinds and tests of evidence; structure, brief-drawing. Text book. The analysis of public questions. Practice in debating. The aim is to cultivate power of analytical and constructive thinking and skill in extemporaneous speech. Attention is given to developing a simple, forceful style of delivery. Open to all students of collegiate standing. May be substituted to fulfill the requirement of 20a, 20b, 20c, by special permission. Two recitations a week. Mr. McCarty.

21b Argumentation and Debating (2, 0, 4) 2 credits Winter term

Continuation of 21a. Greater emphasis placed on actual work of debating. Prerequisite, English 21a. Two recitations a week. Mr. McCarty.

21c Argumentation and Debating (2, 0, 4) 2 credits Spring term

Continuation of 21a and 21b. Emphasis is placed on the principles and qualities of style; persuasion; ethics of discussion. More forceful and effective delivery sought. Two recitations a week. Mr. McCarty.

21d Inter-Collegiate Debating

Especially for those who expect to represent the College in inter-collegiate debating. Credit determined on basis of work done. As much as four credits may be given to one taking part in an intercollegiate contest, upon recommendation of the instructor in charge. Mr. McCarty.

h 22a Oral Reading and Interpretation of Literature

(1, 0, 2) 1 credit Fall term

A study of the expression of thought and emotion based upon literary forms. Intended to develop skill in the oral interpretation of emotional and imaginative literature. Elective. One recitation a week. Mr. McCarty.

22b Instruction in Extension Lectures 2 credits Spring term

Mr. McCarty.

23a Advanced Extemporaneous Speaking and Debate

(2, 0, 4) 2 credits Fall term

A study of principles of practical public speech as revealed in great American debates; Webster-Hayne debate; Calhoun-Cass debate; Lincoln-Douglas debates. Application of these principles in class debates and in original speeches on subjects of current interest. Elective for juniors and seniors who have completed courses 20 or 21, and for others by special permission. Hours to be arranged. Two recitations a week. Mr. McCarty.

23b American Orators and Oratory (2, 0, 4) 2 credits Winter term

The life of the orator, his relation to his age, and the elements of his power as a public speaker. The Revolutionary Period, the Civil War Period, and the Reconstruction Period. Contemporary Oratory. Elective for juniors or seniors who have completed courses 20 or 21, and for others by special permission. Hours to be arranged. Two credits a week. Mr. McCarty.

23c The Public Address (2, 0, 4) 2 credits Spring term

The various forms of public address —Oratory, Eulogy, Political Address, After-dinner Speech, the Occasional Address. The purpose here is to determine the elements of persuasive speech. Original work by members of the class. Open to juniors and seniors who have completed courses 20 or 21, and to others by special permission. Hours to be arranged. Two recitations a week. Mr. McCarty.

24a, 24b, 24c Play Production (2, 0, 4) 2 credits Each term

For those interested in producing plays in high schools, colleges or in community centers. Special attention given to all the details of a

ture of 17th and 18th centuries together with novels by contemporary authors. Texts: *La Poudre aux Yeux*, *LaBiche*; *Le Paris d'aujourd'hui*, Schoell; *Le Livre de Mon Ami*, Anatole France; *Le Bourgeois Gentilhomme*, Moliere.

SPANISH

1a, 1b, 1c Spanish (3, 0, 6) 3 credits Each term

The elements of Spanish grammar with abundant oral and written exercises. Special emphasis on dictation. Readings on geography, customs and general information concerning Spain and South America. Texts: *First Course in Spanish*, Olmsted; *Beginning Spanish Reader*, Wilkins; *Spanish Tales*, Hills.

2a, 2b, 2c Spanish (3, 0, 6) 3 credits Each term

A more comprehensive survey of form and syntax with more advanced reading. Texts: *El Pajaro, Verde*, Galdos; *Gil Blas*, Le Sage; *Zaragueta*, Carrion-Aza.

3a, 3b, 3c Spanish (3,0,6) 3 credits Each term
Spanish drama.

HISTORY AND POLITICAL SCIENCE

PROFESSOR HARDING, ASSISTANT PROFESSOR YOUNG

The specific purpose of this department is to introduce the student to such studies as make him better prepared to understand and appreciate the institutions in the midst of which he lives and of which he is a part. The social sciences, in addition to their cultural value, furnish valuable training for citizenship and community leadership. The study of these sciences should encourage breadth of view, historic-mindedness and fairness of judgment. Constant endeavor is made to teach the practical applications of the social, political and economic experiences of the race to the problems of modern life.

Students are encouraged in every way to make use of the college library, which is the tool house of the department.

1a Modern History (3 0, 6) 3 credits Fall term

Political and social history of Europe from 1500 to 1789. A survey of the sixteenth century Europe, dynastic and colonial rivalry, European society and governments in the eighteenth century. Text book, readings, papers and reports. Prerequisite, sophomore standing. Three recitations a week. Miss. Young.

1b Modern History (3, 0, 6) 3 credits Winter term

Continuation of History 1a. History of Europe from the French Revolution to 1870. French Revolution and Napoleon; era of Metternich; democratic reform and revolution; growth of nationalism to 1870. Prerequisite, History 1a. Three recitations a week.

1c Modern History (3, 0, 6) 3 credits Spring term

Continuation of History 1b. The German Empire; France under the third republic; the new imperialism; the British Empire; international relations and the outbreak of the Great War, 1914. Prerequisite, History 1b. Three recitations a week. Miss Young.

2a, 2b, 2c English History (3, 0, 6) 3 credits Each term

A study of the development of England and the British Empire from origins to the present with special attention to the evolution of political institutions and to current problems. Prerequisite, college standing. Three recitations a week. Miss Young.

3a Industrial History of the United States

(3, 0, 6) 3 credits Winter term

A general survey of the growth of industry, agriculture, commerce, transportation, population and labor in the United States from the period of beginning until 1860. Prerequisite, sophomore standing. Three recitations a week. Text book, supplemented by library readings, reports and papers. Mr. Harding.

3b Industrial History of the United States

(3, 0, 6) 3 credits Spring term

Continuation of course 3a. American economic development from 1860 to the present time. Prerequisite, History 3a. Three recitations a week. Mr. Harding.

h 4a American History, 1783-1829 (4, 0, 8) 4 credits Fall term

A standard course in American history, with special emphasis upon political development, constitutional growth and the development of interests and ideals. Prerequisite, sophomore standing. Four recitations a week. Miss Young.

h 4b American History, 1829-1865 (4, 0, 8) 4 credits Winter term

Continuation of History 4a. The political and constitutional history of the United States from the beginning of Jackson's administration to 1865. The national democracy, anti-slavery movement, slavery in the territories, secession, and Civil War. Prerequisite, sophomore standing. History 4a advised but not required. Four recitations a week. Miss Young.

5 Latin American History (3, 0, 6) 3 credits Spring term

A study of the development of the countries and peoples of Latin America with a view to understanding their present political and economic conditions. Prerequisite, sophomore standing. Three recitations a week. Miss Young.

6 Diplomatic History of the United States (3, 0, 6) 3 credits Fall term

A study of the origin and evolution of the foreign policy of the United States, including the formation and evolution of the Monroe doctrine, Anglo-American relations, imperialistic tendencies, the new Pan-Americanism, war, war aims of the United States, the United States in the Peace Conference, the League of Nations issue, and the after war tendencies of American foreign policy. Prerequisite, two courses in either history or government. Three recitations a week. Mr. Harding.

11a American Government (4, 0, 8) 4 credits Fall term
A general survey of the principles and practices of American National Government. Lectures, text-book, reports and discussions. Prerequisite, sophomore standing. Mr. Harding.

11b American Government (4, 0, 8) 4 credits Winter term
State and local government; constitutional basis of state government; organization, functions and popular control; special attention given to the county, township and city organization, with application to South Dakota. A text-book course with reports, collateral reading and informal discussion. Prerequisite, sophomore standing. Course 11a advised, but not required. Four recitations a week. Mr. Harding.

12 Political Parties and Party History (4, 0, 8) 4 credits Spring term
This course is a study of American political parties and practical politics. History of political parties, party machinery, party morality, party problems, the suffrage, the spoils system, civil service reform, practical politics in legislative bodies, reform of the party system. Readings, class discussions, reports. Should be preceded whenever possible by course 11a. Prerequisite, sophomore standing. Four recitations a week. Mr. Harding.

h 13 Comparative Government (4, 0, 8) 4 credits Spring term
A comparative study of the governments of leading modern nations. It deals not alone with governmental structures, but with the underlying principles, the motives and the inner spirit of the peoples. Should be preceded by courses 11a and 11b or by courses 1a, 1c. Prerequisite, junior standing. Four recitations a week. (Not offered in 1922-23). Mr. Harding.

h 21 Economics (4, 0, 8) 4 credits Fall term
A standard course in the fundamental principles of economic science. Text book, class discussions and a limited amount of reference work. Prerequisite, junior standing. Four recitations a week. Mr. Harding.

h 22 Agricultural Economics (4, 0, 8) 4 credits Winter term
A study of those economic principles which underlie the effective organization of the farm. The economics of production, problems of land tenure, the economics of marketing and the problem of maintaining and improving the economic conditions of the farmer. Text book, lectures, readings and reports. Prerequisite, History 21. Four recitations a week.

h 23 Marketing and Co-operation (3, 0, 6) 3 credits Spring term
Marketing at country points; various types of wholesale traders; organized exchanges, auctions and public sales, private dealers and the middleman question, methods of direct selling, fundamentals of co-operation, cooperative sales agencies, government market bureaus, state owned terminal markets. Prerequisite, Course 21. Three recitations a week.

h 31 Sociology (4, 0, 8) 4 credits Winter term
The fundamental principles of social science, including origin of races and institutions, social evolution, the social order, the social mind,

social selection, progress and its conditions, social ideas, social control and social pathology. Lectures, readings, discussions and a term paper. Prerequisite, junior standing. Four recitations a week. Mr. Harding.

h 32 **Rural Sociology** (4, 0, 8) 4 credits. Spring term

A general survey of the field of rural sociology, including the following topics: types of communities, means of communication, movements of population, the rural social mind, rural morality, farmers organizations, rural recreation, religious and educational forces, the village in relation to rural life and reorganization of rural social forces. Prerequisite, History 31. Four recitations a week. Mr. Harding.

HOME ECONOMICS

PROFESSOR PIERSON, ASSISTANT PROFESSOR LEATON, ASSISTANT PROFESSOR McARTHUR, MISS WASSON, MRS. JANSSEN, MISS ROHRBACH.

The Home Economics department has been installed in a new building. Equipment has been chosen with the view of making the department and all work therein up to the standard of other state colleges. A practice cottage in which every senior girl will be expected to live a term of weeks to prove and apply what she has learned in home management, has been established and equipped. A cafeteria in connection with the college dormitories offers opportunity for laboratory work in institutional cooking and management.

New subjects are to be offered which will train students to enter the numerous fields now open to home economics graduates. Among such positions are dietitians, institutional managers, extension workers, commercial food workers, tea room managers, caterers, costume designers, directors of specialty stores, etc. The aim is to reach as many of the young women of the state as possible and give each one a training which will fit her for a home and also give her a profession to follow.

In order that students may fill positions as teachers in the various types of schools, special courses are given in the theory and practice of teaching home economics together with lessons in practice teaching which gives the student experience in conducting classes. Observations and criticisms of each student are made by an instructor. All the requirements of the Smith-

Hughes Law for Vocational Education are fulfilled and graduates are given certificates for teaching vocational home economics.

Graduates who have done successful work find no difficulty in getting good positions, either thru the college bureau or otherwise.

Below is given the description of courses offered in the Home Economics department. Other electives will be added as the demand grows for them.

1a, 1b **Food Preparation** (2, 6, 4) 4 credits Fall term
(2, 6, 4) 4 credits Winter term

Principles involved in preservation of food. Laboratory work in canning, jelly making, pickling, etc. Elementary principles in serving of meals. Must be preceded or accompanied by chemistry. Two recitations and six hours of laboratory work a week. Miss Wasson.

Laboratory fee, \$3.00 each term.

1c **Food Preparation** (3, 3, 6) 4 credits Fall term

An intensive course covering the principles and technique involved in the preparation of typical foods, offered to freshman students who have had two years of foods in an accredited high school. Three recitations and three hours of laboratory work a week. Miss Wasson.

Laboratory fee, \$3.00.

2a, 2b **Food Preparation** (1, 6, 2) 3 credits Fall term
(1, 6, 2) 3 credits Winter term

Study of foods, manufacture and market conditions. Marketing, planning and preparation of meals; emphasis on cost; nutritive value, economy, and efficiency of time, labor and effort. Prerequisite, Food Preparation, 1a, 1b, and Chemistry 1. One recitation and six hours of laboratory work a week.

Laboratory fee, \$3.00 each term.

5a, 5b **Dietetics** (3, 3, 6) 4 credits Winter term
(3, 3, 6) 4 credits Spring term

Study of the fundamental principles of human nutrition and the application of these principles under varying conditions of age, environment, etc.; the nutritive value and function of food; the determination of proper food requirement. Preparation of reference work from the latest and best material published on the subject of nutrition and dietetics. Prerequisite, Food Preparation 2a, 2b and Organic Chemistry. Three recitations and three hours of laboratory work a week. Miss Pierson.

6 **Special Cookery Problems** (2, 4, 3) 3 credits Fall term

Problems concerning food questions of today. Comparisons as to the value and efficiency of the fireless cooker, double boiler, steamers, pressure cookers, etc. Study of current and local food problems. Opportunity for work to develop students' resourcefulness. Open to juniors and seniors. Two recitations and four hours of laboratory a week. Miss Wasson.

Laboratory fee, \$3.00

7 Demonstration Cookery (1, 4, 1) 2 credits Spring term

To meet demands for better training in extension teaching, lecture work, commercial work and similar fields. Demonstration by instructors, students and specialists from outside the department. Discussion of equipment, organization, method of procedure, etc. Open to juniors and seniors. One recitation and four hours of laboratory work a week. Miss Wasson.

Laboratory fee, \$3.00

8 Home Nursing (2, 3, 4) 3 credits Spring term

Elements of nursing, the methods best employed in the home for the care of children, the sick and aged. Care of the sick, bedmaking, bandaging, simple home remedies and how to meet emergencies, etc. Demonstrations in the hospital with lectures. Open to all women students in the College. Two recitations and three hours of laboratory work a week. In charge of a trained nurse. Miss Prosser.

Laboratory fee, \$.50

9a, 9b Elementary Sewing (1, 6, 2) 3 credits Fall term
(1, 9, 2) 4 credits Spring term

Study of constructive stitches; use and care of sewing machine; use of commercial patterns; mending, patching, construction of under garments, waists, dresses, etc; budgets; study of materials; hygiene of clothing; etc. One recitation and six hours of laboratory work a week, fall term, one recitation and nine hours of laboratory work a week, spring term. Miss Leaton.

Laboratory fee, \$.50 each term.

10 Textiles and Laundry (2, 6, 4) 4 credits Winter term

Study of principal textile fibers in various stages from raw fiber to manufactured cloth; weaves; adulterations; economic conditions; budgets; principles and processes in laundry work. Prerequisite, Elementary Sewing and Chemistry 1. Two recitations and six hours of laboratory work a week. Miss Leaton.

Laboratory fee, \$2.00

11 Dressmaking (2, 4, 6) 4 credits Spring term

Use of dress form, making tight fitted lining, construction of dresses and remodeling. Elements of costume design; suitability of materials, cost, etc. Prerequisite, Elementary Sewing, Textiles and Laundry. Two recitations and six hours of laboratory work a week. Miss Leaton.

12 Dressmaking (1, 6, 2) 3 credits Fall term

Application of the principles of costume design in the construction of blouses, dresses, etc. Problems of remodeling clothing for children and adults. One recitation and six hours of laboratory work a week. Miss Leaton.

14a 14b Millinery (0, 9, 3) 4 credits Winter term

(0, 9, 3) 4 credits Spring term

Making patterns; construction of frames; covering same; simple trimmings; renovation of hats and materials; retrimming, etc. Prerequisite, Sewing 9a, 9b. Nine hours of laboratory work a week. Miss Leaton.

Laboratory fee, \$1.00

15a Household Management (3, 3, 3) 3 credits Fall term

The organization and application of all the principles learned in the subjects of the department. A study of efficient housekeeping, budgets and accounts; domestic service, community enterprises, etc. Purposes, functions and activities of the home. Laboratory work on problems of cleaning, renovating, repairing, labor saving methods, etc. Precedes or accompanies course in practice cottage. Three recitations a week. Miss Pierson.

Laboratory fee, \$1.00 each term.

15b, 15c Home Planning and Equipping (3, 0, 6) 3 credits Winter term
(3, 0, 6) 3 credits Spring term

This course comprises a study of styles of domestic architecture, house planning and construction, interior finishing, decorating and furnishing. Each student is given the individual problem of planning, decorating and finishing a modest home. A budget for furnishings is made. Miss McArthur.

16 Practice Cottage (-, -, -) 6 credits

Before receiving a degree all seniors are required to live for a period of twelve weeks in the cottage. The work is planned and done entirely by the students. A home economics faculty member lives in the cottage and supervises the work. Miss Pierson.

17 Institutional Management (1, 6, 8) 5 credits Spring term

Skill in buying, handling, storing and preparing large quantities of food and problems of menu planning, marketing, selection of equipment, management of servants, accounting, etc. Laboratory work in the dormitory cafeteria and thru college functions. Open to seniors. One recitation and three two-hour laboratory periods.

Laboratory fee, \$2.00.

Education 49a, 49b Special Methods of Teaching Home Economics

(3, 0, 6) 3 credits Fall term
(3, 0, 6) 3 credits Winter term

Discussions and problems concerning the standards and methods of Home Economics Education in various types of schools. Courses of study, lesson plans, observation reports, special readings and demonstrations before the class. A study of school organization and management in relation to Home Economics. Prerequisite, Psychology, History of Education, and Principles of Teaching. Three recitations a week. Miss McArthur.

Education 49c Practice Teaching in Home Economics

3-5 credits Any term

This course runs parallel to Education 7a and 7b. Students are given the responsibility of taking part or full charge of classes in sewing and cookery in the public schools, in the School of Agriculture and in the Preparatory Department. Required of students taking Teachers Training Course in Home Economics. Miss McArthur.

HORTICULTURE AND FORESTRY

PROFESSOR HANSEN; ASSISTANT PROFESSOR KEENE

In this department the work is given from two standpoints. From the one, especially in the study of genetics, emphasis is placed upon the general philosophy of the subject as being essential to a general education. The claim is made that some of the principles of horticulture and forestry are essential to any well rounded education and to the best preparation for citizenship. The second standpoint is that of students intending to make a life work of horticulture or forestry, either as a business or a profession. Throughout the course full use is made of the student's attainments in the various sciences underlying these subjects. The variation of plants and their development under the hand of man are considered, as well as their propagation and cultivation.

Field and laboratory exercises emphasize the lectures and recitations of the class room. The habit of independent investigation and close observation is encouraged by requiring written reports of outdoor excursions or demonstrations. Excellent facilities for practical illustration are offered by the ninety acres of experiment station horticulture grounds and college campus. In this domain are included orchards, forestry plantations, nurseries, vegetable gardens, small fruit plantations, flower borders and a collection of ornamental plants. Special attention is paid to the breeding of hardy fruits adapted to prairie conditions and the work in this line is now second to none in extent. The department greenhouse consists of two sections, one for the general floriculture work and the other for fruit breeding experiments. In addition the horticulture building contains class rooms, laboratory rooms and storage cellars.

Special stress is placed upon practical work in the grafting room.

The following work is offered:

1a, 1b	General Horticulture	(1, 3, 2) 2 credits	Fall term
		(1, 3, 2) 2 credits	Spring term

A study of the elementary principles of fruit growing and vegetable gardening, as related to home production, and the planting and care of home grounds. One lecture and one three-hour laboratory

period per week. Mr. Keene, five field excursions each term with Mr. Hansen,

2 Farm Forestry (1, 3, 2) 2 credits Fall term

A study of the principles of forestry as applied to shelterbelts and woodlots; propagation and growth characteristics of trees; a short course in the identification of the trees in the vicinity of State College. One lecture and one three-hour laboratory period a week supplemented by text and assignments. Mr. Keene.

h 3a, 3b Tree Fruit Culture (0, 4, 2) 2 credits Spring term
(0, 4, 2) 2 credits Fall term

The growing of tree fruits, including varieties, soils, fertilizers, spraying, pruning, cultural practices, harvesting and storing. Two two-hour laboratory periods or one lecture and one three-hour laboratory period a week. Prerequisite, Horticulture 1a. Mr. Hansen, Mr. Keene.

h 4 Systematic Pomology (0, 4, 2) 2 credits Fall term

Origin, history and relationship of economic fruits, practice in description and identification of fruits, fruit judging, etc. Two two-hour laboratory periods or one lecture and one three-hour laboratory period a week. Prerequisite, Horticulture 1a, 3a. Mr. Hansen, Mr. Keene.

h 5 Small Fruit Culture (1, 3, 2) 2 credits Spring term

The growing of small fruits, including soils, fertilizers, planting, training, culture, handling and marketing. One lecture and one three-hour laboratory period a week. Mr. Hansen, Mr. Keene.

h 6 Plant Breeding (1, 3, 2) 2 credits Spring term

The principles of breeding as applied to flowers, vegetables and fruits. One lecture and one three-hour laboratory period a week. Prerequisite, Botany 8. Mr. Hansen.

h 7a, 7b Nursery Practice (0, 4, 2) 2 credits Fall term
(0, 4, 2) 2 credits Spring term

Propagation and handling of fruit and ornamental plants. Two two-hour laboratory periods a week. Prerequisite, Horticulture 1a, 1b. Mr. Hansen.

8 Landscape Gardening (1, 3, 2) 2 credits Fall term

General principles of landscape gardening; most common plant material employed; practice in simple plan drawing for home and school ornamentation. One lecture and one three-hour laboratory period a week. Mr. Keene.

9 Floriculture (0, 4, 2) 2 credits Spring term

Practical methods of growing flowers and other ornamental plants. Two two-hour laboratory periods a week. Mr. Hansen and college florist.

10 Home Vegetable Gardening (1, 3, 2) 2 credits Spring term

Growing vegetables for home use, including choice of varieties, fertilizers, seeding, transplanting, culture, pest control, harvesting and storing. One lecture and one three-hour laboratory period a week supplemented by text book assignments. Mr. Keene.

h 11 Advanced Vegetable Forcing (0, 4, 2) 2 credits Winter term

Vegetable forcing in greenhouses, hotbeds, and cold frames. Greenhouse construction and management. Two two-hour laboratory periods a week supplemented by text and assigned readings. Prerequisite, Horticulture 10. Mr. Keene.

h 12 Vegetable Gardening (0, 4, 2) 2 credits Spring term

Business methods followed by professional truck growers' labor problems, rotations, companion and successive cropping and special problems in production of vegetables for market. Two two-hour laboratory periods a week supplemented by lectures and assignments. Prerequisite, Horticulture 10. Mr. Keene.

h 13 Systematic Olericulture (2, 0, 4) 2 credits Fall term

Systematic study and description of leading varieties of vegetables. Two lecture periods a week. Prerequisite, Horticulture 11, 12, Botany 2c. Mr. Keene.

h 14a, 14b, 14c Landscape Design 2 credits Each term

Landscape composition; civic art; advanced composition. Solution of problems in landscape gardening. Prerequisite, Horticulture 2, 8 and 17. Mr. Hansen, Mr. Keene.

h 15 Horticulture Problems (1, 0, 2) 1 credit Any term

Assigned problems for horticulture, experimental work in greenhouse gardens and orchards, keeping records, etc. Hours for consultation. For seniors. Mr. Hansen.

16 Floral Arrangement (1, 0, 2) 1 credit Winter term

For junior or senior girls or others interested in commercial floriculture. A study of principles and methods of arrangements of flowers for various types of decorations. One two-hour laboratory period a week with assignments. Mr. Hansen and college florist.

17 Plant Materials (1, 3, 2) 2 credits Spring term

A study of trees, shrubs, and flowers in their relation to landscape work. One lecture and one three-hour laboratory period per week. Mr. Hansen, Mr. Keene.

INDUSTRIAL ART

ASSISTANT PROFESSOR HARTNETT

On account of the growing demand for men to teach the manual and industrial art subjects this department has been added to the State College. By electing this work with that in the mechanical engineering, auto-mechanic and education departments students are well fitted to instruct in the manual art and industrial subjects.

The shops are located in the northeast wing of the Engineering Building, and have the following equipment: band

saw, variety saw, jointer, mortiser, grinder, speed lathe and planer, all with individual motor drive, a trimmer, twenty-six individual benches and all the necessary tools.

Industrial Art 2a, 2b, 3, 4 and 5 described below are "limited credit" subjects. However, a student who desires to train himself to teach this kind of work may be permitted by the Classification Committee to elect more of such work towards a degree than the rule governing "limited credit subjects" permits, provided a well balanced scheme of study is outlined.

2a Bench Work (0, 6, 0) 2 credits Fall or Spring term

This course is open to all college students and is arranged for students who have had little or no experience in this subject. The use of woodworking tools, materials used, fundamental processes, and the use of work drawings will be illustrated by the construction of useful articles made from the student's own drawing and from blue prints. The making and reading of working drawing will be an essential part of this course.

Laboratory fee, 75c per credit.

2b Bench Work (0, 6, 0) 2 credits Winter term

This course is planned for students who have had at least 2a or equivalent. Plan-drawing continued, emphasis being given to details and isometric representation. Advanced problems in construction, cutting of duplicate parts, cabinet work, the use and care of woodworking machinery, finishing and polishing. Special work will be given to agricultural students and those intending to teach in agricultural high schools.

Laboratory fee, 75c a credit.

3 Wood Turning (0, 6, 0) 2 credits Any term

The work in wood turning is offered in each term and on account of the equipment the time is arranged for the convenience of the students. The instruction includes turning between centers, chuck and face plate turning. In addition to the exercises, ornamental turnings are made. Prerequisite, Industrial Art 2a.

Laboratory fee, \$.75 per credit.

4 Furniture Design (0, 6, 0) 2 credits Spring term

This course is open only to those students who have had at least two terms of collegiate work in the department. It includes the study of the period furniture, turnings and carvings and their proper applications. Cabinet work involving these principles will be constructed. Prerequisite, Industrial Art 2a, 3.

Laboratory fee, \$.75 per credit.

5 Carpentry (0, 6, 0) 2 credits Spring term

This course is offered in the spring term so that much of the instruction can be given outside of the shop in practical work of construction of buildings. Rafter cutting, window and door frame building as well as plan readings are studied. Prerequisite, Industrial Art 2a.

Laboratory fee, 75c per credit.

6 Farm Shop Work

2-4 credits

Spring term

This course is arranged for teachers and students of agriculture and will consist of shop work in wood and metal as they center around farm projects. Some attention will be given to concrete construction, repair of farm equipment and farm buildings. Problems in equipping farm shops and school shops for teaching farm mechanics will be taken up in this course. Prerequisite, Industrial Art 2a.

7 Concrete Construction

(1, 3, 2) 2 credits

Spring term

This course is a continuation of Farm Shop Work and is especially valuable to students of agriculture and teachers of farm shop work. Instruction will be offered in the uses of concrete, mixing and proportioning, protecting and hardening, the re-inforcing of concrete, and the making of concrete forms. Students will make the drawings and forms for a series of projects illustrating the above principles. Prerequisite, drawing and shop work equivalent to 2a.

h Education 48

(3, 0, 6) 3 credits

Spring term

This course is planned for vocational teachers, supervisors, or teachers of the manual and industrial arts, and for principals and superintendents who may have charge of schools where this kind of work is given. Social and economic basis. A brief review of the Industrial Revolution and the decay of the apprentice system will be made before taking up the present day problems. The present industrial situation, trade unions, types of trades, means of learning a trade, specialization in industries. The relation of industrial arts to industrial and trade training. Types of schools—pre-vocational, trade, part time, continuation, cooperative industrial, technical, evening schools, corporation schools. The relation of the junior high school to industrial education. Vocational guidance as related to industrial training. Legislation. State and Federal aid to vocational schools. Special attention will be given to types of industrial work for small towns and schools in rural communities. Lectures, investigations and reports. Mr. Hartnett.

MATHEMATICS

PROFESSOR BROWN, ASSOCIATE PROFESSOR MILLER, ASSIST-
TANT PROFESSOR McCORDIC, MR. ENKE

The general work of this department is planned to cultivate habits of systematic and accurate thinking, as well as facility in making calculations. Independent effort is encouraged to the greatest possible extent, the solutions of problems and original demonstrations forming an important part of each course.

The department advises general science students choosing major work in the mathematical and physical sciences to elect courses 2, 3, 4, 5a, 5b and 6. Courses 1a, 1b and 1c are arranged

for general science and agricultural students who do not desire to take the five-credit freshman courses.

Students who expect to teach mathematics or do graduate work in the subject are advised to take other courses offered by the department. Those interested should consult members of the department concerning such changes.

1a, 1b, 1c Mathematical Analysis (3, 0, 6) 3 credits Each term

A correlated course in college algebra, trigonometry and analytic geometry. Offered for general science and agricultural students who do not desire to take the five-credit courses in college algebra, trigonometry and analytic geometry. Prerequisite, high school algebra and geometry. Mr. Miller.

2 College Algebra (5, 0, 10) 5 credits Fall term

Elementary topics, functions and their graphs, review of the and combinations partial fractions, logarithms and determinants. Prerequisite, three semesters of elementary algebra. Five recitations a week. Required in freshman Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Miss McCordic.

3 Plane Trigonometry (5, 0, 10) 5 credits Winter term

The functions of acute angles, the solution of the right triangle, goniometry, the solution of the oblique triangle, general applications of trigonometry. Prerequisite, one year of plane geometry and one and one-half years of high school algebra. Five recitations a week. Required in freshman Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Miss McCordic.

4 Analytic Geometry (5, 0, 10) 5 credits Spring term

Co-ordinate systems, projections, loci, the straight line, conics, the general equation of the second degree. Prerequisite, Mathematics 2 and 3. Five recitations a week. Required in freshman Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Miss McCordic; Mr. Brown.

5a Calculus (5, 0, 10) 5 credits Fall term

Differential calculus, with application to engineering problems, integration of standard forms, definite integrals, rational fractions, integration of parts. Prerequisite, Mathematics 4. Five recitations a week. Required in sophomore Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Miss McCordic.

5b Calculus (5, 0, 10) 5 credits Winter term

The application of calculus to problems involving areas, lines, surfaces, and volumes; successive and partial intergration, centers of gravity and moments. Prerequisite, Mathematics 5a. Five recitations a week. Required in sophomore Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Miss McCordic.

6 Analytic Mechanics (5, 0, 10) 5 credits Spring term

The applications of calculus in the field of pure mechanics. Prerequisite, Mathematics 5b, of which it is a continuation. Five recitations a week. Required in sophomore Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Mr. Brown.

h 7 Solid Analytic Geometry (3, 0, 6) 3 credits Fall term

The application of coordinate systems to geometry of three dimensions. Prerequisite, Mathematics 4. Three recitations a week. Offered primarily for students who are interested in advanced mathematical study and graduate engineering work. Mr. Miller.

h 8 Theory of Equations and Determinants (3, 0, 6) 3 credits Winter term

A study of the theory of determinants, complex numbers, De Moivre's Theorem, cubic and biquadratic equations. Prerequisite, Mathematics 4. Offered for students who are interested in advanced mathematical study. Mr. Miller.

h 9 Differential Equations (3, 0, 6) 3 credits Spring term

A study of the differential equations with application in the fields of mechanics and physics. Elective in all courses. Prerequisite, Mathematics 5b. Three recitations a week. Mr. Miller.

10 Mathematical Theory of Investment (5, 0, 10) 5 credits Fall term

The application of algebra to problems in interest, annuities, amortization, the valuation of bonds, sinking funds and depreciation, building and loan associations, theory of probability and problems in life insurance. Prerequisite, Mathematics 2, 3 or 1a, 1b, 1c. Offered primarily for those students who desire a knowledge of mathematics as applied to business. Mr. Miller.

h 11a, 11b Projective Geometry (4, 0, 8) 4 credits Winter term
(4, 0, 8) 4 credits Spring term

A development of the fundamental notions of projective geometry mainly from the purely synthetic standpoint. Prerequisite, two years of college mathematics. Offered for those students who are interested in advanced mathematical study. The course is very desirable for prospective teachers of geometry. Mr. Miller.

20 General Astronomy (3, 0, 6) 3 credits Spring term

The aim of the course will be to familiarize the student with the general non-technical phases of astronomy. Text and a limited use of instruments. Prerequisite, sophomore standing. Three recitations a week.

MECHANICAL ENGINEERING

PROFESSOR SOLBERG, ASSOCIATE PROFESSOR HOY, MR. ANDREWS.

The object of the work offered is to give the students a thorough training in the theoretical principles underlying the science of mechanics and machines and at the same time to

enable them to become particularly familiar with some of the numerous applications of these principles.

The instruction is both theoretical and practical. The usual methods of text-book study and lectures are employed, but the student is required to put into practice, as far as possible, the instruction he receives. Hence the work of the classroom is supplemented and practically exemplified by practice in shops. The student not only studies the theories of constructing and operating machinery, but in the drawing room he designs, and in the shop he constructs and operates such machines. It is believed that those who complete this course will be able to fill responsible positions in manufacturing establishments.

The department is located in the Engineering Building.

The workshops are supplied with a large variety of tools of good quality.

The machine shop is furnished with a large number of engine lathes of different sizes, universal milling machine, shaper, planer, tool grinder, drill press, emery wheels and a great variety of hand tools. The machinery is driven by a 50 horse power steam engine and two motors.

The Experimental Engineering Laboratory is equipped with a 100,000 pound vertical screw testing machine for making tensile and compressive tests of the various materials of construction; an automatic shot cement briquette testing machine; a gas engine; a 10 by 10 steam engine. There are also available for this work a 12 by 14 steam engine and two 48 by 16 horizontal boilers; a calorimeter for determining the heat of gases; a calorimeter for making British thermal unit tests of coal, and an apparatus for flue gas analysis.

The laboratory also possesses a large amount of small apparatus such as indicators, planimeters, steam gauges, thermometers, etc., and a complete outfit for making tests of sand, cement and concrete.

Work in architectural drawing and designing is offered.

Additional work along this line will be given to students who desire it.

The following work is offered:

1a, 1b, 1c Forging (0, 6, 0) 2 credits Any term

Demonstrations and work in the care and use of the fire and forging tools, together with the work in iron, mild steel and tool steel. The class work will include in-bending, drawing-out, upsetting, shaping and tempering of tools, and art-smithing. The course will offer a good outline in metal work for manual training. Open to all students. Three hours a week for each credit. Limited credit subject. Mr. Andrews.

Laboratory fee \$.75 per credit each term.

2a, 2b Machine Shop (0, 9, 0) 3 credits Winter term
(0, 9, 0) 3 credits Fall term

Includes a study of the material used in machine work, shop sketching, methods of laying out work, and the elementary principles of machine work; problems involved in the use of various machine tools. Regular text book and class room work supplements the actual work in the shop. Open to all students. Three hours a week for each credit. Mr. Hoy.

Laboratory fee \$.75 per credit each term.

3a, 3b Engineering Drawing (0, 9, 0) 3 credits Fall term
(0, 6, 0) 2 credits Winter term

Instrumental and geometrical problems and parts of machines. Open to all students who have had high school mathematics. Three hours a week for each credit. Mr. Solberg.

4a, 4b, 4c Architectural Drawing (0, 6, 0) 2 credits Any term

Rendered drawings of simple buildings, examples of various orders, giving facility in draughtsmanship, familiarizing students with principles introduced in practical problems, exercises in composition and details. Open to all students who have had high school mathematics. Three hours a week for each credit. Mr. Solberg.

5 Descriptive Geometry (0, 6, 0) 2 credits Spring term

Instruction in methods of representing by drawing all geometrical magnitudes and solution of problems relating to these magnitudes in space. Prerequisite, plane geometry. Six hours a week in recitation and drawing work. Mr. Solberg.

6 Machine Design (0, 9, 0) 3 credits Winter term

Solution of various problems involving the design of simple parts of the machine. Prerequisite, Mechanical Engineering 3a, 3b. Three three-hour laboratory periods a week. Mr. Solberg.

7 Elements of Mechanism (4, 0, 8) 4 credits Spring term

Elements of machinery, velocity ratios, graphic representation of speed and acceleration; motion transmitting parts, such as gears, belts, cams, screws, link work; automatic feeds, paralleled and quick return motions; designing. Prerequisite, Mathematics 3. Four recitations a week. Mr. Solberg.

h 8 Machine Design and Kinematics (0, 9, 0) 3 credits Fall term

Continuation of Machine Design and problems in the design of motion transmitting appliances. Prerequisite, Mechanical Engineering 7.

h 9a, 9b Steam Engines and Thermodynamics

(3, 0, 6) 3 credits Fall term

(3, 0, 6) 3 credits Winter term

Study of the modern steam engine, slide valve, and when in combination with independent cut-off valves, link motion and Zeuner diagrams, reciprocating parts and indicator practice; the principles of the theory of heat which are necessary to a study of the various kinds of heat engines; the application of laws of thermodynamics to the steam engine and a study of steam engine economy by entropy temperature analysis and by other graphical methods. Prerequisite, Mathematics 5a, 5b. Three recitations a week. Mr. Solberg.

h 10 Steam Boilers (3, 0, 6) 3 credits Spring term

Advantages and disadvantages of using the various forms of boilers, methods of construction, tubes, plates, riveting, bracing, grate and heating surfaces, gauges and feed appliances, setting, care and operation. Prerequisite, Mechanical Engineering 9. Three recitations a week. Mr. Solberg.

h 11 Engineering Design (0, 15, 0) 5 credits Winter term

Continuation of Mechanical Engineering 8, with special reference to steam machinery. Solution in the drawing room of some practical problems in design and making working drawings of same. Five three-hour laboratory periods a week. Mr. Solberg.

h 12a, 12b, 12c Engineering Laboratory (0, 6, 0) 2 credits Each term

Testing of materials of construction, including investigation of problems in connection with use of concrete; testing of gauges, thermometers, planimeters; determination of heat value of coal; use of steam and gas engine indicators; throttling and separating calorimeters, dynamometers and Prony brakes; and complete efficiency tests of engines and boilers under actual running conditions. Prerequisite, Mechanical Engineering 9 and 10, and Civil Engineering 6. Six hours of laboratory work a week. Mr. Hoy.

Laboratory fee, \$2.00 each term.

h 13 Gas and Oil Engines (2, 0, 4) 2 credits Spring term

Study of the theory, design and operation of gas, gasoline and oil engines and of the various types of gas producers. Prerequisite, Mechanical Engineering 9. Two recitations a week. Mr. Solberg.

h 14 Heating and Ventilation (3, 0, 6) 3 credits Spring term

A study of the principles underlying the design of the various systems of heating and ventilation in common use, including such details as loss of heat from buildings, problems in proportioning ventilating ducts; and the arrangement of systems of piping for steam and hot water. Prerequisite, Mechanical Engineering 9. Three recitations a week. Mr. Solberg.

h 15 Power Plant Design (0, 12, 0) 4 credits Spring term

Design of a power station including buildings and roof for an up-to-date plant. Prerequisite Mechanical Engineering 10. Four three-hour laboratory periods a week. Mr. Solberg.

MILITARY SCIENCE AND TACTICS

CAPTAIN WEAVER, LIEUTENANT BACKES, SERGEANT DENNY,
SERGEANT ROSS.

The primary object of the Reserve Officers Training Corps is to supply Reserve Officers; the primary object of the instruction of collegiate students is therefore to train the prospective graduates to become Reserve Officers; the secondary object is to impart instruction so that those students who do not complete the four years of college will at the end of any college year have received a kind and scope of training that will make them more useful in the National Guard, the Organized Reserves or in the military establishment in the time of national emergency.

The Senior Unit is divided into a Basic and an Advanced Course.

The Basic Course is required of all freshmen and sophomores. It consists of both theoretical and practical work. Text books, lectures, and demonstrations are used in the course.

The Advanced course is selective and elective. Those students who have completed the basic course with excellent records, and whose mental and physical qualities warrant the belief that they will become satisfactory Reserve Officers are recommended by the President and the Professor of Military Science and Tactics as being eligible to take the advanced course. Those electing to take this course are paid commutation of subsistence by the Federal Government at a rate prescribed each year by the Secretary of War. For the year beginning September 26, 1921, the amount received by each student was about \$150. Five hours per week during the junior and senior years are devoted to this course.

The Junior Unit is composed of students in the last three years of the Preparatory Department, and in the last three years of the School of Agriculture. Students of the first year in the secondary courses are given military and physical training, but are not eligible for membership in the R. O. T. C.

The Federal Government furnishes uniforms and equipment free to all R. O. T. C. members. For the school year

starting September, 1922, it is expected that the Government will authorize commutation of uniforms, in which case a distinctive S. D. S. C. uniform will be provided instead of the regular Army uniforms now issued.

Each unit is organized as a Battalion of Infantry; first year students act as Cadet Privates; second year students as Cadet Non-Commissioned Officers; third and fourth year students as Cadet Sergeants and Cadet Officers.

The instruction outlined below is a progressive course of study and practical exercises, covering the four college years. The course is planned to give college students that degree of training, practicable at civil educational institutions, which will enable them to perform intelligently the ordinary duties of a Lieutenant of Infantry in the Officers' Reserve Corps when called into active service, and to give them a foundation for further qualifications in the Infantry specialities.

MILITARY CREDITS TO GRADUATES OF JUNIOR UNITS OF THE R. O. T. C.

Graduates of junior units of the R. O. T. C. who have satisfactorily completed two or more years of the course will be given partial credit for the subject matter covered upon their entrance to the senior R. O. T. C. unit at this institution. In order to obtain credit students must submit a detailed certificate as to the subjects covered, signed by the school officials and the P. M. S. & T. No incoming freshman will be given credit covering an entire year or more of the military course but will be given partial credits depending upon his standing in the junior unit and his demonstrated ability. In drill the student may be exempted from one-half or more of the drill periods so interspersed during the year that he will keep abreast of the students in his class. The same policy as to credits will be followed in other subjects which he has previously covered in the junior unit. It is considered essential that all students be active members in the military department in order that they may make the acquaintance of the other students in the organization and keep abreast of them in their military work.

MILITARY CREDITS TO FORMER SERVICE MEN

Members of the R. O. T. C. who have had previous service in the Army, Navy or Marine Corps will be given credit upon the same basis as outlined above for graduates of the Junior Units of the R. O. T. C.

First Year, Basic Course

1a, 1b, 1c, Military Science and Tactics 1½ credits
Required of freshmen. Three times a week.

Each term

SUBJECTS AND SCOPE

I. INFANTRY DRILL REGULATIONS

1. Theoretical instruction:
 - (a) Principles and methods of instructions in close and extended order to include the school of the soldier, squad, platoon and company.
2. Practical instruction:
 - (a) Close and extended order drills.
 - (b) Participation in Military Ceremonies.

II. RIFLE MARKSMANSHIP

1. Theoretical instruction:
 - (a) Lectures and talks explanatory of the general scheme and principles of rifle marksmanship.
2. Practical instruction:
 - (a) The first, second, third, fourth, and fifth steps in rifle marksmanship.
 - (b) Nomenclature and care of the rifle.
 - (c) Effect of weather conditions—sight changes—score book.
 - (d) Gallery practice.
 - (e) Range practice with ball ammunition.
 - (f) Method of coaching.
 - (g) General rules and definitions.

III. SCOUTING AND PATROLLING

1. Theoretical instruction:
 - (a) Principles governing the composition, formation and operations of reconnoitering patrols by day and by night; differences in methods of operating in open warfare and warfare of position.
2. Practical instruction:
 - (a) Problems and exercises in scouting and patrolling on sand table and terrain.

IV. PHYSICAL TRAINING

1. Theoretical instruction:
 - (a) Recruit instruction in the setting-up exercises.
 - (b) Talks on the need for and object of physical training.
 - (c) Mass games and athletics.

V. MILITARY COURTESY

1. Theoretical instruction:
 - (a) Lectures on fundamental principles of military discipline.
 - (b) Relation of courtesy to discipline and efficiency.
 - (c) The military courtesies of the Army of the United States.
 - (d) Demonstration of correct and incorrect manner of rendering courtesies.

Second Year, Basic Course

SUBJECTS AND SCOPE

2a, 2b, 2c **Military Science and Tactics** 1½ credits Each term
 Required of sophomores. Three hours per week

I. MAP READING AND MILITARY SKETCHING

1. Theoretical instruction:
 - (a) The instructions necessary to enable students to read military maps with facility and to make road, out-post and position sketches.

2. Practical instruction:

- (a) Problems in map reading, visibility of points, areas, et cetera.
- (b) Practice in making road, outpost and position sketches.
- (c) Combined sketching.

II. INFANTRY WEAPONS

1. Theoretical instruction:

(a) The Bayonet.—Lessons on the bayonet as an offensive weapon. The spirit of the Bayonet. Team work.

(b) The Automatic Rifle.—Lessons on the history, characteristics, marksmanship of the weapon and the organization and equipment of auto-rifleman.

(c) Hand and Rifle Grenades.—Lessons on the construction and handling of the weapons, including explosives.

2. Practical instruction:

(a) The Bayonet.—Bayonet training to include the assault course.

(b) Automatic Rifle.—Mechanics, immediate action, marksmanship to include instruction up to range practice.

(c) Hand and Rifle Grenades.—Individual instruction with dummy and improvised grenades.

III. MUSKETRY

1. Theoretical instruction:

(a) Weapons of the infantry squad. Theory of fire.

(b) Range estimation, target designation, fire distribution.

(c) Fire discipline, use of cover, etc.

(d) Fire control, application, observation, and adjustment of fire.

(e) Control of movement, rushes and infiltration, squad and section.

(f) Conduct of fire in the attack—duties of leaders to include the section.

(g) Conduct of fire in the defense—duties of leaders to include the section.

(h) Combat practice, use of landscape targets, etc.

2. Practical instruction:

(a) Exercises, demonstrations and tests, using sand table, landscape target and terrain.

IV. COMMAND AND LEADERSHIP

1. Practical instruction and experience:

(a) In order to carry out the spirit of the general instructions governing this course, it is essential that students in the 2nd year of the basic course be given the greatest practicable opportunity to exercise the functions of command appropriate to N. C. O.'s and to acquire practical experience in leadership.

A provision of time is made for this purpose and the individual student is given definite assignment to duties in connection with the instruction and training of students in the first year of the basic course, which will, in the course of a year, demonstrate the aptitude of the individual student.

V. MILITARY HYGIENE, SANITATION, AND FIRST AID

1. Theoretical instruction:

(a) Personal hygiene.

- (b) Foods, their preparations, hygiene of the kitchen, the barracks and camp.
- (c) Selection and protection of drinking water.
- (d) Hygiene of moving troops.
- (e) The causes of disease, the prevention and control of epidemics.
- (f) Sanitation of localities, selection and drainage of camp sites.
- (g) Disposal of refuse.
- (h) First aid to the injured.
- (i) Comparative statistics of physical fitness of American citizens for military service in the world war.

2. Practical instruction:

- (a) Sand table demonstrations and problems in camp sanitation.
- (b) Construction of miniature models of sanitary appliances, camp sites, expedients.
- (c) Demonstrations and exercises in First Aid to the Injured.

First Year, Advanced Course

3a, 3b, 3c Military Science and Tactics 3 credits Each term
 Elective for students completing Basic Course and recommended for Advanced Course.

Five hours per week

SUBJECTS AND SCOPE

I. FIELD ENGINEERING

1. Theoretical instruction:

(a) Elements of field engineering, instruction to include the principles and methods of military Field Engineering in the various types of trenches, obstacles, shelters, machine-gun emplacements, observation posts, et cetera. Organization of working parties and tasks. Selection of location of works for defense, concealment and camouflage.

2. Practical instruction:

(a) Solution of military engineering problems based on 1 (a) above. Demonstrations on sand table. Construction on sand table, miniature models of types of trenches, obstacles and other defensive works. Reconnaissance, location and laying out of works on the ground, the construction of a trench system, each class from year to year enlarging, improving, and repairing the initial works.

II. ACCOMPANYING WEAPONS

1. Theoretical instruction:

(a) The Machine Gun.—Its development. The theory of fire. Targets and ranges. Direct, indirect, and overhead fire, night firing.

(b) The 37 mm Gun (One-pounder)—history of the weapon. Direct, indirect and overhead fire, observation and adjustment of fire.

(c) The Light Mortar—history of the weapon, laying the mortar, kinds of fire, observation and adjustment of fire.

2. Practical instruction:

(a) The Machine Gun—Nomenclature, use, care and repair of machine guns and accessories. Immediate action, exercises and demonstration in direct and indirect fire, use of instruments. Determination of ranges. Recognition and designation of service targets.

(b) The 37 mm Gun (One-pounder)—construction, care and operation of the gun. Types of ammunition. School of the one-pounder sec-

tion. Exercises and demonstration in direct and indirect fire.

(c) The Light Mortar.—Construction, care and operation of the gun. School of the mortar section.

III. MILITARY LAW AND RULES OF LAND WARFARE

1. Theoretical instruction:

(a) Military Law.—Definition, sources and kind of military jurisdiction. Classification and composition of courts martial. Exercise of military jurisdiction. Persons subject to military law. Articles of War. Procedure before trial. Procedure of Courts Martial evidence. Sentence. Punishment without trial.

(b) Rules of Land Warfare. Lectures on general principles.

2. Practical instruction:

(a) Moot-Court exercises.

IV. COMMAND AND LEADERSHIP

1. Practical instruction and experience:

(See comment under IV-1 (a) in 2nd year basic course except that instruction is appropriate to grades of Sergeant and Lieutenant.)

4a, 4b, 4c Military Science and Tactics 3 credits Each term

Required of students electing advanced course. Five hours per week.

Second Year, Advanced Course

SUBJECTS AND SCOPE

I. Tactics

1. Theoretical instruction:

(a) General view of the organization and conduct of the Battalion and higher units.

(b) Principles governing the organization, armament, equipment and conduct of the Rifle, Machine Gun, Howitzer, and Headquarters Companies in offensive and defensive combat.

(c) Tactical principles governing the conduct of the platoon and smaller units in offensive and defensive combat.

(d) Principles governing the employment and details of conduct of covering detachments in open and position warfare.

Note—(b) is treated in a definite and (c) in a detailed manner.

2. Practical instruction:

(a) Demonstrations, exercises and problems on sand table, map and terrain in subjects covered in (b), (c), and (d) above.

II. MILITARY HISTORY

1. Facts of American Military History including the World War as to:

(a) The sources of authority for our military establishment.

(b) The development of the military resources and the military strength of the United States.

(c) The state of National preparedness for war at critical periods in the history of the United States.

(d) The cost of American wars in relation to national unpreparedness.

2. Lessons from American military history as to:

(a) The traditional military policy of the United States.

(b) The need for national organization for the military defense of the nation.

III. ADMINISTRATION

1. Lectures on the practical administration of a company including interior economy and the management of the soldier.

2. Practical work in the preparation of papers pertaining to the administration of a company. The things a Lieutenant should know concerning military correspondence, preparation and application of War Department forms, use and disposition of orders, bulletins, and circulars.

IV. COMMAND AND LEADERSHIP

1. Practical instruction and experience:

(See comment under IV, 1 in 2nd year of basic course except that instruction is appropriate to grades of Sergeant, Lieutenant and Captain.)

Junior Unit

Military Science and Tactics

1 credit

Each term

All physically fit male students of the Preparatory Department and the School of Agriculture take training in this department. First year students are not members of the Reserve Officers' Training Corps, but receive preliminary training. Three hours per week.

PHARMACY

PROFESSOR SERLES, ASSISTANT PROFESSOR HOGSTAD,
MR. ROTTLUFF

Purpose

The purpose of this department is to train young men and women in the science of pharmacy. The passage of the Food and Drug Act by Congress, and similar legislation by our own state has placed very great importance on pharmaceutical education. Under the present commercial conditions it is nearly impossible for one to prepare himself to meet the requirements of these laws except by taking a thorough college course.

The demand for educated pharmacists is becoming greater every day. In fact, even at present, some of the states will not allow one to take the examination for registration unless he is a graduate of a reputable school. This department meets both the preparatory and professional requirements of the New York Educational Department with which it is registered in full. It is also a member of the American Conference of Pharmaceutical Faculties.

Medicinal and Poisonous Plant Garden

During the past three years a medicinal plant garden has been developed in order to acquaint the students with the principles of medicinal plant cultivation and the nature and characteristics of a large number of drug plants. The student has the opportunity of noting the various steps employed in principles of medicinal plant cultivation and the nature and large number of drugs. Specially designed ovens are employed for the rapid drying of various drugs. The dried, preserved materials are used in connection with the work in Pharmaceutical Botany, Pharmacognosy, Practical Pharmacy, and Drug Analysis.

Below is given a description of the subjects that are offered in the department:

1a, 1b	Pharmaceutical Latin	(2, 0, 4) 2 credits	Fall term
		(2, 0, 4) 2 credits	Winter term

The subject is taught with special reference to its application to titles and prescription practice. First year. Prerequisite, freshman standing. Two recitations a week. Text: Muldoon's Pharmaceutical Latin. Mr. Hogstad.

2a, 2b, 2c	Materia Medica	(5, 0, 10) 5 credits	Each term
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This study embraces a consideration of the medicinal properties, dosage and the description of the official, and the important non-official medicines. Special emphasis is placed on the nature, effect, and treatment of poisons. Second year. Prerequisite, Pharmacy 3, 4a, 4b. Five recitations a week. Text: Potter's Materia Medica and Applied Therapeutics. Mr. Hogstad.

3	Pharmaceutical Botany	(3, 6, 6) 5 credits	Fall term
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Designed to acquaint the student with the characteristics of the principal groups of plants, emphasis being placed on their economic value. The course also includes examination of the cell and cell contents, the plant structure and microscopical technique. A detailed study of many of the important crude drugs and drug plants with respect to the botanical and pharmacognostical characteristics. First year. Two recitations and six hours of laboratory work a week. Text: Younken's Pharmaceutical Botany. Mr. Hogstad; Mr. Rottluff.

Laboratory fee \$2.00, deposit \$2.00.

4a, 4b	Pharmacogony	(2, 6, 4) 4 credits	Winter term
		(2, 6, 4) 4 credits	Spring term

This course embraces a careful study of source, characteristics and constituents of all the crude drugs of the United States Pharmacopoeia, Ninth Decennial Revision, and of the more typical and important ones of the National Formulary. Special stress is laid on the identification of the crude drugs and their respective powers. First year.

Prerequisite, Pharmacy 3. Two recitations and six hours of laboratory work a week. Text: Kraemer's Scientific and Applied Pharmacognosy. Mr. Hogstad; Mr. Rottluff.

Laboratory fee, \$2.00, deposit \$2.00 each term.

5a, 5b **Theoretical Pharmacy** (4, 0, 8) 4 credits Winter term
(3, 0, 6) 3 credits Spring term

A study of the comparison of the weights and measures of the various systems, and of the theory of the application of the methods used in pharmaceutical manufacture. First year. Four recitations a week, first term, and three recitations a week, second term. Text: Remington's Practice of Pharmacy, Volume 1, with lectures by the instructor. Mr. Serles.

6 **Practical Pharmacy** (0, 6, 0) 2 credits Spring term

Preparation of waters, syrups, mucilages, and other galenicals prescribed by the instructor. First year. Prerequisite, Pharmacy 5a. Six hours of laboratory work a week. Text: Remington's Practice of Pharmacy, Volume 1. Mr. Rottluff.

Laboratory fee, \$5.00, deposit \$2.00.

7 **Theoretical Pharmacy** (4, 0, 8) 4 credits Fall term

A careful study of the official inorganic salts and their compounds, solutions, emulsions, powders, pills, ointments and plasters. Second year. Prerequisite, Pharmacy 5a, 5b, 6. Four recitations a week. Text: Remington's Practice of Pharmacy, Volume II. Mr. Serles.

8 **Practical Pharmacy** (0, 9, 0) 3 credits Fall term

Application of principles in course 7 which it accompanies. Second year. Prerequisite, Pharmacy 6. Nine hours of laboratory work a week. Text: Remington's Practice of Pharmacy, Volume II. Mr. Serles.

Laboratory fee, \$5.00, deposit \$2.00.

9a, 9b **Dispensing** (4, 0, 8) 4 credits Winter term
(0, 12, 0) 4 credits Winter term

This course is so designed as to acquaint the student with the actual work that comes before him in the store, and to give him the practical side of the work, previously given in lectures on incompatibility and prescription filling. Second year. Prerequisite, all courses of theoretical and practical pharmacy. Four recitations and twelve hours of laboratory work a week. Text: Scoville's The Art of Compounding. Mr. Serles.

Laboratory fee, \$5.00, deposit \$2.00.

10 **Prescription Practice** (4, 0, 8) 4 credits Spring term

Special attention will be given to the National and State laws governing the importation, commercial disposition and the medico-legal aspects of prescription practice. Second year. Prerequisite, Pharmacy 9a, 9b. Four recitation a week. Texts and references: Scoville's Art of Compounding; Ruddiman's Incompatibles in Prescriptions; Remington's Practice of Pharmacy; Holland's Toxicology; Sollman's Manual of Pharmacology; Potter's Therapeutics and Materia Medica; National and State Laws. Mr. Serles.

11a, 11b	Drug Assaying	(1, 9, 2) 4 credits	Winter term
		(1, 9, 2) 4 credits	Spring term

Second year. Prerequisite, inorganic chemistry. One recitation and nine hours of laboratory work a week. Mr. Rottluff.

Laboratory fee, \$2.00, deposit \$2.00 each term.

h 12	Urine Analysis	(2, 6, 4) 4 credits	Fall term
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Each student is required to make a careful and systematic chemical and microscopic study of the urine with sufficient outside reading and lecture work to enable the student in his interpretation of the results which he may find. Third year. Prerequisite, two years' work in pharmacy. Two recitations and six hours of laboratory work a week. Texts and references: Holland's Medical Toxicology; Long and Abderhalden's Physiological Chemistry, and lecture notes. Mr. Serles.

Laboratory fee, \$2.00, deposit \$2.00.

h 13a, 13b	Toxicology	(2, 6, 4) 4 credits	Winter term
		(2, 6, 4) 4 credits	Spring term

A systematic physiological and chemical study of the more common poisons, together with nature, effects and antidotes for same. Lectures will also be given concerning the medico-legal aspect. Third year. Prerequisite, first and second year pharmacy courses. Two recitations and six hours of laboratory work a week. Text and references: Authenrieth's Detection of Poisons; Holand's Toxicology; Sollman's Manual of Pharmacology; Howells' Physiology; Potter's Therapeutics and Materia Medica; Journal of Experimental Medicine. Mr. Serles.

Laboratory fee, \$2.00, deposit \$2.00 each term.

PHYSICS

PROFESSOR MATHEWS, ASSOCIATE PROFESSOR HOY

From the fact that physics is a foundation science and that a knowledge of its laws is necessary to every student seeking a scientific training the department has been fitted with rooms, appliances and facilities for instruction equal to those found in the leading educational institutions of the northwest. The following courses are offered:

1a	General Physics	(3, 3, 6) 4 credits	Fall term
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Mechanics of solids and fluids; sound and heat. Prerequisite, high school physics and trigonometry. Three recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

1b	General Physics	(3, 3, 6) 4 credits	Winter term
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Heat continued from fall term, electricity and magnetism. Prerequisite, Physics 1a. Three recitations and three hours of laboratory work a week. Mr. Mathews.

Laboratory fee, \$2.00.

- 1c General Physics** (3, 3, 6) 4 credits Spring term
Electricity and magnetism continued from winter term, and light studied. Prerequisite, Physics 1b. Three recitations and three hours of laboratory work a week. Mr. Mathews.
Laboratory fee, \$2.00.
- 2a, 2b, 2c College Physics** (2, 3, 4) 3 credits Each term
General topics in physics discussed with special emphasis upon subjects of practical interest; offered to students in agricultural courses. Prerequisite, high school physics. Two recitations and three hours of laboratory work a week. Mr. Mathews.
Laboratory fee, \$2.00 each term.
- 3 Household Physics** (2, 2, 5) 3 credits Spring term
A general review of physics. Emphasis is laid upon the practical application of physical principles in the home. Two recitations and two two-hour laboratory periods a week. Mr. Hoy.
Laboratory fee, \$1.00.
- h 4 Primary and Secondary Batteries** (2, 3, 4) 3 credits Fall term
Strong and weak points, care, construction and characteristics of primary and secondary batteries. Prerequisite, elementary physics and plane trigonometry. Two recitations and three hours of laboratory work a week. Mr. Mathews.
- h 5 Teaching High School Physics** (2, 0, 4) 2 credits Spring term
Methods of presenting subject matter; class and laboratory outlines, selection of experiments, apparatus and equipment. Prerequisite, high school physics. Two recitations a week. Mr. Mathews.
- h 5 Advanced Physics** (4, 3, 8) 5 credits Fall term
Mechanics of solids, liquids and gases, and sound. Prerequisite, Physics 1a, and Mathematics 5b. Four recitations and three hours of laboratory work a week. Mr. Mathews.
Laboratory fee, \$2.00.
- h 7 Heat** (4, 3, 8) 5 credits Winter term
Prerequisite, Physics 1b and Mathematics 5b. Four recitations and three hours of laboratory work a week. Mr. Mathews.
Laboratory fee, \$2.00.
- h 8 Light** (4, 3, 8) 5 credits Spring term
Prerequisite, Physics 1c and Mathematics 5b. Four recitations and three hours of laboratory work a week. Mr. Mathews.
Laboratory fee, \$2.00.

PHYSICAL EDUCATION AND ATHLETICS

PROFESSOR WEST, MR. ENKE, MISS KENDALL

The importance of physical training is fully recognized by the College and all students are encouraged to participate in the various athletic activities. All freshmen are required to take a physical examination and any defects they may have

are brought to their attention. Men of the freshman class are required to take one hour of calisthenics a week in addition to their work in athletics and drill. Credit is allowed for this work. The student association furnishes uniforms to the candidates for the teams in football, basketball and track. The gridiron, the tennis courts, the three basketball courts, and the cinder track offer splendid facilities for training and exercise in the various sports. Interclass competition is used to help foster interest in basketball and track athletics. Special courses are open to young men who plan to enter the educational field as athletic coaches. These courses consist of practical demonstrations, lectures, and drills in addition to actual practice coaching in football, basketball and track.

Young women below the junior year are required to take physical training as indicated below. Students taking this work are required to furnish the following articles of dress: black bloomers, stockings, tie, leather gymnasium shoes and white middy with short sleeves in the uniform suit.

FOR WOMEN

1a, 1b, 1c	Physical Education	(0, 3, 0) 1 credit	Each term
2a, 2b, 2c	Physical Education	(0, 3, 0) 1 credit	Each term

This course of two years' work, which is required of all women below junior standing, consists of Swedish gymnastics, including light hand apparatus and corrective stall bar exercises, drills, jumping, buck and horse vaulting, games, folk dancing, theory and development of rhythm as a translation of musical construction and note values into bodily movement. Interclass tournaments are played in basketball, volleyball, indoor baseball, and tennis. Two hours a week. Miss Kendall.

POULTRY HUSBANDRY

PROFESSOR STEVENSON

The following courses are offered in this department, those given in the School of Agriculture not being indicated.

1	Poultry Culture	(2, 3, 4) 3 credits	Fall term
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A study of the rise of the poultry industry and its importance; the origin of domestic poultry; breeds and varieties of domestic fowl; how to choose a farm for poultry; selection of stock; modern poultry house construction; equipment for the poultry house; yarding and free range; colony and community systems; principles of poultry feeding; various foods for poultry; preparation of rations; management of laying

and breeding stock; culling the layers; candling, grading and packing eggs and birds; marketing products. Two lectures and three hours of laboratory work a week.

2 Poultry Husbandry (1, 3, 2) 2 credits Fall term

Elective course. Principles and practice of culling poultry flocks. Judging of poultry for utility and standard qualities. Conditioning, fitting and training of poultry for exhibition purposes. Killing, braining and dry picking poultry. One lecture period and three hours of laboratory work a week.

3 Poultry Breeding (2, 3, 4) 3 credits Spring term

The principles and practice of poultry breeding; the management of breeding stock; anatomy and physiology of fowls; formation of eggs and chickens, study of different makes of incubators and brooders; natural and artificial incubation and brooding; care of growing stock; capons and caponizing; marketing of hatching eggs, day old chicks and breeding stock. Practice in operation of incubators and brooders. Two lectures and three hours of laboratory work a week.

4 Poultry Raising (3, 0, 6) 3 credits Winter term

An intensive study of turkeys, ducks, geese, squabs, and guineas, pheasants, etc., including the breeds and varieties, housing principles, feeding, breeding and marketing. Three lectures a week.

VETERINARY SCIENCE AND BACTERIOLOGY

PROFESSOR LIPP, MR. TAYLOR

The development of our complex systems of livestock farming and transportation has increased the rapidity with which animal diseases spread over wide areas. Thru the necessity of protecting their own interests, farmers and stockmen are paying more attention to all that relates to animal disease prevention than ever before. The following veterinary courses were planned to meet this demand. No attempt is made to teach diagnosis or treatment, since these arts belong to the practicing veterinarian. But every effort is made to teach the principles underlying animal disease prevention, and the methods for their practicable application. The following courses, except Applied Embryology, are arranged in logical sequence. No student will be permitted to register for any of these courses unless he can satisfy all the prerequisite requirements.

VETERINARY ANATOMY

1 Veterinary Anatomy (3, 0, 6) 3 credits Spring term

The anatomy of the digestive, respiratory, circulatory, excretory and reproductive systems of domestic animals. Three recitations a week. Prerequisite, sophomore standing. Dr. Lipp.

2 Veterinary Physiology (3, 0, 6) 3 credits Fall term

The physiology of digestion, respiration, circulation, excretory and regeneration. Three recitations a week. Prerequisite, junior standing. Dr. Lipp.

3 Veterinary Pathology (3, 0, 3) 2 credits Winter term

Common disease processes as they occur in the farm animals. Three recitations a week. Prerequisite, junior standing. Dr. Lipp.

4 Non Contagious Diseases (3, 0, 3) 2 credits Spring term

The causes and methods of preventing the most prevalent non-contagious diseases of farm animals. Three recitations a week. Prerequisite, junior standing and Veterinary 1, 2, and 3. Dr. Lipp.

5 Contagious Diseases (4, 0, 8) 4 credits Winter term

The causes and methods of preventing the most prevalent contagious and infectious diseases of farm animals. Four recitations a week. Prerequisite, junior standing and Veterinary 1, 2, 3. Dr. Lipp.

6 Applied Embryology (2, 0, 2) 1 credit Fall term

The development of the fetuses of domestic animals, with special reference to the development of the digestive, respiratory, circulatory and genito-urinary systems. Two recitations a week. Dr. Lipp.

BACTERIOLOGY

Progress in the development of the science of bacteriology during the past decade has been so rapid and its relation to every day life so intimate, that a knowledge of the subject is of fundamental importance to everyone who aims to possess a broad general education. While the course is not intensive enough to gain advanced standing by those who later pursue the study of medicine or any other profession in which bacteriology plays an important part, every effort is made to give the student an insight into the underlying principles of the science, and their application to problems of health and the various arts and industries.

1 General Bacteriology (2, 6, 4) 4 credits Any term

The characteristics of growth, staining, and microscopic appearance of many of the most common bacteria. Also a consideration of their excretory products and their action, and the theories of resistance and immunity. Two recitations and two laboratory periods a week. Prerequisite, sophomore standing. Dr. Taylor.

Laboratory fee, \$5.00

ZOOLOGY-ENTOMOLOGY

PROFESSOR SEVERIN, ASSISTANT PROFESSOR GILBERTSON,
ASSISTANT PROFESSOR O'ROKE

The subjects offered by the zoology-entomology department are planned to meet the needs of three classes of students: first, those who wish to specialize in some phase of this work; second, those who must receive a fundamental training

in the work of this department in order that they may pursue certain branches of study, such as human or veterinary medicine, pharmacy, home economics, animal husbandry, horticulture, etc.; and third, those who desire merely to acquire a knowledge of the fundamental facts and principles of zoology and entomology.

The work of this department is conducted by means of lectures, recitations, laboratory and field work. The student is thus afforded not only an opportunity to gain familiarity with the principles and theories discussed in the class room, but is also encouraged to put these theories to the test and verify the principles in the field.

The laboratories are well supplied with apparatus and illustrative materials. The apparatus includes compound microscopes, binocular microscopes, dissecting microscopes, camera lucidas, paraffin baths, incubators, microtomes, physiological apparatus, photographic apparatus, spray machinery and accessories, etc. As to illustrative materials, in addition to the general museum and entomological collections, there is a large series of charts, skeletons, formalin and alcoholic preparations, wax models, lantern slides, microscopic preparations, a complete line of insecticides and fungicides, a collection of approximately 500 Riker mounts illustrating the life cycle of injurious insects, etc.

The library and entomological collections of the State Entomologist of South Dakota are housed in the zoology-entomology department. These collections are worthy of special mention and are available for general reference work to advanced students specializing in entomology.

1a, 1b	General Zoology	(2, 4, 3)	3 credits	Fall term
		(2, 4, 3)	3 credits	Winter term

This course is planned to give the student a fundamental knowledge of the structures, functions and relationship of animals, how they respond to their environment and their place in human welfare. It constitutes a general survey of animal life, both invertebrate and vertebrate, and serves as an introduction to any course involving a knowledge of the broad underlying principles of biology such as agriculture and home economics. Mr. Severin; Mr. O'Roke; Mr. Gilbertson.

2	Mammals and Birds	(2, 2, 2)	2 credits	Winter term
		(2, 2, 2)	2 credits	Spring term

In this course is included a study of the mammals and birds of

South Dakota. Special stress is laid upon such birds and mammals as are of considerable economic importance to mankind, either because of their usefulness or harmfulness. An intensive study will be made especially of birds of the state. Many of the laboratory periods will be devoted to outdoor work when identification and behavior studies will be emphasized. Mr. O'Roke.

3 Parasitology (2, 4, 3) 3 credits Spring term

A study of the chief worm and protozoan parasites of domestic animals and man, their habits, life histories and economic importance. This course includes lectures, laboratory work and assigned readings. This course should be preceded by Veterinary and Medical Entomology (see course 21). Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

h 4 Organic Evolution (3, 0, 6) 3 credits Spring term

A study of the facts and theories that have led up to our present day knowledge of evolution. Variation, Mendelism, the germ cells, and the origin of species and of the individual are the basis for the discussion of methods and principles. Genetics in relation to human welfare is an integral part of the course. Prerequisite, a standard collegiate course in any of the biological sciences. Open only to juniors and seniors. Mr. O'Roke.

h 5a, 5b Vertebrate Histology (0, 12, 0) 4 credits Fall term
(0, 12, 0) 4 credits Winter term

A course in microscopic anatomy and microtechnical methods, which includes the preparation by the student of a large number of microscopic slides. The latter part of the course consists of the study of tissues from these preparations. Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

Laboratory fee, \$2.00 each term.

h 6 Vertebrate Embryology (2, 4, 3) 3 credits Spring term

A study of the male and female germ cells, fertilization, cleavage, development, origin of the germ layers and initiation and growth of the systems of organs. The pig and chick furnish laboratory material, and the student is required to prepare a series of slides of the former to be used for study. Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

Laboratory fee, \$3.00.

7 Human Physiology (3, 2, 4) 3 credits Spring term

A study of the work of organisms, reproduction, growth and development of the human body. The fundamental physiological processes such as digestion, excretion, respiration and circulation are demonstrated in the laboratory. Anatomical models and histological slides are used for study of organs and tissues. Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

8a, 8b Pharmacy Physiology (2, 6, 4) 4 credits Fall term
(1, 4, 4) 3 credits Winter term

The anatomy and physiology of a mammal will be studied and comparisons made with the anatomy and physiology of man. Each student is required to dissect a mammal. Anatomical models are used for comparisons. Mr. O'Roke.

Laboratory fee, \$2.00 each term.

- 9 Hygiene** (1, 0, 1) $\frac{1}{2}$ credit Fall term
 This course consists of lectures, recitations and conferences, and presents in a reliable way the information and facts that one needs to know regarding personal hygiene and physical efficiency. Required of all freshman men. Mr. O'Roke.

ENTOMOLOGY

- 20a, 20b Entomology** (2, 4, 3) 3 credits Winter term
 (2, 4, 3) 3 credits Spring term

A general course dealing with the anatomy, physiology, embryology, behavior, classification, life history and economic importance of insects. This course is designed as an introduction to the advanced courses described under 21, 22, 23, 24, 25, 26, 27, and 28. Mr. Severin; Mr. Gilbertson.

Laboratory fee, \$1.50 each term.

- 21 Veterinary and Medical Entomology** (2, 4, 3) 3 credits Winter term

This course deals with the injurious insects, mites and ticks affecting domestic animals and man. Since insects play such an important part in the transmission of diseases, a considerable portion of the term will be devoted to a discussion of this phase of the work. It is intended that students electing this course also elect Parasitology (see course 3). Prerequisites, Entomology 20a, 20b. Mr. Gilbertson.

- h 22 Orchard Entomology** (2, 4, 3) 3 credits Spring term

A course dealing with the life history, development and control of insect and mite pests of fruit-producing plants. Much of the laboratory work will be devoted to a study of spray pumps and the preparation of insecticides and the application of these to the infested plants. Prerequisite, Entomology 20a, 20b. Mr. Severin.

Laboratory fee, \$1.00.

- h 23 Garden Entomology** (2, 4, 3) 3 credits Fall term

This course deals with the insect and mite pests of vegetable-garden crops. The recitations and lectures will be devoted to a discussion of the pests, their life cycle, their work and their control, while the laboratory periods will be devoted to a study of spray pumps, insecticides and the application of insecticides. Prerequisite, Entomology 20a, 20b. Mr. Severin.

Laboratory fee, \$1.00.

- h 24 Field Crops Entomology** (2, 4, 3) 3 credits Spring term

This course is designed to acquaint the student with such insect pests as injure field crops. Through the recitations and lectures the student learns to recognize the pests under discussion; he familiarizes himself with their life cycle and he learns the fundamentals regarding their control. Through the laboratory work, the insects are studied in the field, as are also the insecticides, spray pumps and other apparatus necessary in the control of the pests. Prerequisite, Entomology 20a, 20b. Mr. Gilbertson.

Laboratory fee, \$1.00.

25 Household Pests (2, 4, 3) 3 credits Spring term

The greater part of this course will deal with insects that are troublesome in the home. Such pests as clothes moths, buffalo moths, flour and cereals insects, house-flies, blow-flies, cockroaches, fleas, ants, bean weevils, silver-fish, mosquitoes, lice, insects infesting house-plants, etc., will be thoroughly discussed. Other pests such as rats, mice, English sparrows, etc., will also be treated in this course. Mr. Gilbertson.

26 Nursery and Greenhouse Inspection (2, 4, 3) 3 credits Spring term

This course deals with the animal pests of nursery and greenhouse stock and is designed to acquaint the student with these pests, their life history and control. A portion of the term will be devoted to the study of state and federal regulations governing nursery stock. Actual experience of nursery and greenhouse inspection will be required of all students before credit is given in this course. Prerequisite, Entomology 20a, 20b. Mr. Severin.

27 Beekeeping (3, 3, 3) 3 credits Fall term

A general course dealing with the fundamentals of beekeeping. In this course it is expected that each student take charge of a hive and that he adopt a program of caring for this hive as outlined by the instructor. Mr. Gilbertson.

Laboratory fee, \$2.00.

28 Systematic Entomology (2, 4, 3) 3 credits Winter term

This course, while primarily entomological, is designed to be of general use to students of biology. The aim of the course is to give the student a good idea of the methods of insect classification. Each student will be required to do his own collecting and mounting of insects, although the collections of the department will be available to the student at all times for reference work. Prerequisite, Entomology 20a, 20b. Mr. Severin.

Special and Secondary Courses

The College offers the special and secondary courses mentioned below. These are described on the following pages:

The Courses in Music.

The School of Agriculture Course.

The One Year Course in Commercial Science.

The Tractor and Auto-Mechanics Course.

The Three Months Creamery Course.

The Courses in Printing.

Special work in the Industrial Arts.

Special work in the Fine Arts.

Correspondence Courses.

MUSIC

PROFESSOR CHRISTENSEN; ASSOCIATE PROFESSOR PETERSON; ASSISTANT PROFESSOR KOHLER; MISS COUGHLAN; MR. JOHNSON; MISS RINK

The purpose of this department is to give the very best musical training possible at a minimum cost, without sacrificing the high standards of the institution.

It is generally recognized that few branches of study require a greater and broader training of the mind than does the study of music, and not only cultivation of the mind, but of the emotions as well. The emotional is a phase too often neglected in education, although it has so important a part in life. In music one must learn to control—to keep in the background—one's own emotions, in order to give true expression to the thoughts of the master minds which have so wonderfully woven the beautiful harmonies.

A knowledge of music also serves to give proper balance to an education, the aesthetic side of which is too often neglected.

The work of the department is arranged with the view of supplying the needs more especially of those who wish to broaden themselves and to make music a part of their general education.

Advantages

The hearing of good music is most important in getting a proper musical education. Splendid opportunities in this direction are given in connection with the high grade faculty concerts, and an Artists' course which consists of recitals by some of the best musicians of the country.

In addition to these advantages, the department maintains a Choral Union, a Chapel Choir of twenty-four picked voices, a Men's Glee Club, a Women's Glee Club, a Ladies' Band, a String Quartet, a Symphony Orchestra and a Military Band.

All these organizations appear in concerts during each school year.

The Choral Union has presented Handel's "Messiah" for eight consecutive years. It has also produced "Hiawatha" and

"The death of Minnehaha" by Coleridge-Taylor, "Elijah" by Mendelssohn, "The Rose Maiden," "Fair Ellen," "The Redemption," "Faust," the comic operas "H. M. S. Pinafore," and the "Mikado."

Recitals are also given by students at various times during the year and attendance is obligatory upon each student of the department.

Students' Convocation

The Music Students' Convocation meets once every month at which programs are given by students or faculty. As this is part of the school work each student of music is required to be present.

Equipment

The department of music occupies rooms in the east portion of the Administration building, adjoining the Auditorium. Its equipment includes three Knabe Grand pianos, one Steinway Grand and one Brambach Baby Grand with a large number of excellent pianos.

The Auditorium, in which all concerts are given, has a seating capacity of over one thousand. It is equipped with a two-manual Estey organ.

A new Edison phonograph has recently been added to the equipment and a large number of excellent records secured as a nucleus for a library. A Lyon and Healy harp and a two-manual practice organ have also been secured.

Conditions for Entrance

The candidate for admission to the College must be at least fourteen years of age and of good moral character, and must have completed the work of the public schools as far as the ninth grade.

Students of music will be required to take at the same time at least eight hours, work outside the department approved by the classifying officer. Students of Public or High Schools may enroll if written permission from their superintendent or principal is presented.

Absences

No lessons will be made up except those missed because of sickness and when reported in advance to the instructor. If absence is necessary for other reasons permission must be obtained from the administration.

Lessons will in no case be made up after the close of the quarter.

In view of the extremely low tuition, lessons missed on account of college holidays will not be made up.

Courses

Two courses are offered by the department.

1. The Preparatory Course.
2. The Collegiate Course.

The Preparatory Course is open to all beginners and consists of rudiments, tone production, formation of correct habits of thought and execution, etc.

The Collegiate Course leads to graduation and consists of four years' work. To complete this course, the student must have secured a thorough knowledge of harmony, theory and history as outlined. Upon its completion, the student will be given a diploma in music, provided the entrance requirements to the freshman class of the College have been completed. A certificate of proficiency or merit is awarded at the completion of the junior year.

For convenience, music students who have completed the entrance requirements to the freshman class and one year of the collegiate course in music, will be ranked as though they were carrying full college work, provided that in addition to the full collegiate courses in music they carry other college work amounting to twelve credits.

Credits

Credit for music is assigned on the same basis as credit for regular college work, that is, three hours' work a week in the class room and in practice counts as one credit, with the exception that elementary work in applied music is given only one half credit on this basis. Students are expected to spend six hours in practice in connection with each half-hour lesson.

Music credits may be counted towards the degree of bachelor of science according to the rules governing limited credit subjects. This rule prescribes that not to exceed a total of ten credits in music, typewriting, the fine arts and several other lines of work, nor more than three in any one year, may be thus counted. Harmony history of music and public school music are not included among these subjects. For further details concerning this matter, see index for reference to "Limited Credit Subjects."

The following credits are awarded for work in this department, each credit representing not less than three hours' work in recitation and preparation:

1. Piano or Organ—2 half hours per week 4 credits per term.
2. Piano or Organ—1 half hour per week 2 credits per term.
3. Voice—2 half hours per week 2 credits per term.
4. Voice—1 half hour per week 1 credit per term.
5. Violin or Cello—2 half hours per week 4 credits per term.
6. Violin or Cello—1 half hour per week 2 credits per term.
7. Wind Instruments—2 half hours per week 4 credits per term.
8. Wind Instruments—1 half hour per week 2 credits per term.
9. Harmony, Counterpoint and Composition—2 half hours per week 2 credits per term.
10. Harmony, etc.—1 half hour per week 1 credit per term.
11. History of Music—1 hour per week 1 credit per term.
12. Music Essentials and Forms—1 half hour per week 1 credit per term.
13. Ear Training—1 half hour per week 1 credit per term.
14. Glee Clubs—1 credit per year.
15. Choral Union—1 credit per year.
16. Chapel Choir—1 credit per year.
17. Orchestra—1 credit per year.
18. Ladies' Band—1 credit per year.
19. Public School Music—3 credits per term.
20. Band and Orchestra Conducting—2 credits per term.

COLLEGIATE COURSE IN MUSIC

First Year

	Fall	Winter	Spring
*Applied Music (Major Work) -----	4	4	4
Harmony -----	2	2	2
Choral Union, Orchestra, etc. -----			1
English -----	3	3	3
Foreign Language -----	3	3	3
Military Drill or Physical Culture -----	1	1	1
Elective -----	5	5	5
	<hr/>	<hr/>	<hr/>
	18	18	19

Second Year

*Applied Music (Major Work) -----	4	4	4
Harmony -----	2	2	2
History of Music -----	1	1	1
Ear Training -----	1	1	1
History of Music -----	1	1	1
Choral Union, Orchestra, etc. -----			1
English -----	3	3	3
Military Drill or Physical Culture -----	1	1	1
Elective -----	5	5	5
	18	18	19

Third Year

*Applied Music (Major Work) -----	4	4	4
Counterpoint -----	2	2	2
**Applied Music (Minor Work) -----	2	2	2
Choral Union, Orchestra, etc. -----			2
Psychology -----		4	
Music Essentials and Forms -----	1	1	1
Public School Music -----	3	3	3
Electives -----	6	2	4
	18	18	18

Fourth Year

Applied Music (Major Work) -----	4	4	4
Composition -----	2	2	2
Music Essentials and Forms -----	1	1	1
Choral Union, Orchestra, etc. -----			1
Public School Music -----	3	3	3
Elective -----	5	5	5
	15	15	16

Studies in bold faced type are required for graduation, the others are suggested as electives in a well balanced course.

Voice

ASSISTANT PROFESSOR KOHLER

Vocal instruction is based on the principle of freedom of execution in the production of beautiful artistic tone. The most fundamental subjects bringing the student to the stage where the above will be realized are: (1) Breath control, (2) voice production, (3) diction as applied to singing, (4) phrasing, (5) expression and interpretation.

*Piano, organ or other instrument, two lessons per week. Major work in voice will receive two credits.

**Piano, organ or other instrument, one lesson per week. For students majoring in piano, minor work of one year in voice or some other instrument is required. For students majoring in voice or instruments other than piano, minor work of one year in piano is required. Minor work in voice will receive one credit.

Special attention is given to the needs of each student, with individual exercises and studies selected to the progress of each voice.

Study will be made of songs and ballads chosen from the best of French, German, English and American composers with strict attention to rhythm, enunciation, phrasing and interpretation.

COLLEGIATE COURSE

First Year—Breath control, teaching the use of the diaphragm, and the proper position for singing. Exercises for the development and placing of the voice. Sieber's thirty-six eight measure vocalizes, manuscript exercises in articulation and phrasing. Easy songs in English.

Second Year—Continued breath work. Scale practice for precision and agility. Studies by Lutgen, Concone, Tosti and Vaccai. German, French, English, and American Songs.

Third Year—Voice development continued. Songs in French and English. Arias and duets from operas.

Fourth Year—Exercises continued as above, increasing in difficulty. Recitations and arias from standard oratorios and operas. Advanced songs by American composers. Vocal analysis and vocal pedagogy.

Public School Music

ASSISTANT PROFESSOR KOHLER

An increasing demand for Public School Music has made it necessary to add this course of study to the music department. The present course is offered to supply the need for specially trained music teachers in the grades and high schools.

The course, as planned, covers two years of work. Experienced teachers who are able to pass some of the entrance requirements might complete the course in one year. A certificate will be granted those completing the course.

First Year.

1. **Sight Reading**—Ability to read and sing at sight individually, using the Latin syllables, music suitable for the sixth year in the public schools.

2. **Dictation**—Study of tone and rhythm. The subject-matter of music is presented first to the sense of hearing. An important feature of this course is the development of musical memory and the resulting ability to take down comparatively long phrases after one hearing.

3. **Material and Methods**—Students without teaching experience will receive special attention in primary music, including the treatment of monotonies, rote songs, etc.

Second Year

1. **Sight Reading**—Advanced work in reading and singing at sight in part songs and choruses.

2. **Dictation**—Open to the students who have completed one year of harmony. This course includes the completion of the work in melodic dictation, as well as harmonic dictation in two and three parts.

3. **Materials and Methods**—This course is devoted to the teaching and supervision of music in the upper grades and high school. The work of each year is taken up in detail and the problems which confront the grade teacher and supervisor are carefully considered. Observation and practice teaching must be done to complete this course.

Piano

ASSOCIATE PROFESSOR PETERSON; MISS RINK

The study of piano is conducted with a view to balancing more perfectly the training of the mind and the cultivation of technical power. Too often stress is placed upon one or the other, more frequently the latter, to an extreme. Technic is but the means to an end, i. e., the correct interpretation of the masters, and should be so considered.

Special attention is directed from the very beginning to the student's habit of thinking. This is done largely through the method of harmonic analysis and memorizing in an orderly and consecutive manner.

The musical side of the student's personality is brought into action through intelligent and artistic interpretation and its development is materially assisted by his having the opportunity to hear good music, artistically rendered, as often as possible.

In technical development, special work is given for the acquisition of finger strength and independence, a correct position of the hand and purity of tone. Since it is now generally believed that the purest and sweetest tones are secured from direct finger action, this is much emphasized throughout the course.

These fundamental ideas are associated with the principle, the understanding of which is so necessary to the successful teacher, that efforts should continually be made to render the study of the piano less irksome and as intensely interesting to the student as it can be made.

PREPARATORY COURSE

An elementary course is offered to students who are not sufficiently advanced to enter the collegiate course.

COLLEGIATE COURSE

First Year—Etudes of Heller, Czerny, Foote; selections from the Bach suites; easier sonatas by Haydn and Mozart; selected compositions by Mendelssohn, Schubert, Chopin, Schumann, Grieg, MacDowell, etc.

Second Year—Studies from Bach, Suites and Inventions; Heller, Czerny and others; sonatas by Mozart and Beethoven; pieces by Weber, Chopin, Mendelssohn, Schumann, Grieg, MacDowell, Liszt and others; also some of the easier Concertos of Mendelssohn, Weber, Mozart, etc.

Third Year—Bach, Well Tempered Clavichord; Studies by Foote, Chopin, Liszt; Sonatas by Schubert, Weber, Grieg, Beethoven, Chopin; concert pieces selected from the works of Weber, Mendelssohn, Schumann, Liszt, Rubinstein and the modern French, Russian and American composers; Concertos by Beethoven, Rubinstein, Chopin, Schumann, Saint Saens, etc.

Fourth Year—Continuation of above; graduate programs prepared, the science of building and arranging programs, advanced work given to develop and broaden the sense of the artistic.

Pipe Organ

ASSOCIATE PROFESSOR PETERSON

A splendid two manual Estey Pipe organ has been presented to the College by its Alumni and installed in the Auditorium. A two-manual practice organ is now in use and others are to be added to the equipment as needed.

To pursue the study of pipe organ successfully the student should possess a certain facility in sight reading at the piano.

COLLEGIATE COURSE

First Year—Dunham's Organ School, easy pedal studies, Organ Registration, Hymn Playing, Bach Chorals, easy pieces by standard composers.

Second Year—Buck's Pedal Phrasing studies; Bach Chorals, continued; Bach and Mendelssohn Preludes and Fugues; selected compositions of moderate difficulty from classical and modern schools.

Third Year—Greater works of Bach and Mendelssohn including Sonatas, Chorals and Fugues. Also Sonatas by Rheinberger and Guilmant. Pieces by standard composers.

Fourth Year—Continued study of the greater organ works by Bach, Handel, Liszt, Guilmant, Widor; concert works by standard composers. A complete organ recital is required for graduation.

Violin

MISS COUGHLAN

The study of the Violin is systematically developed and due stress is given to technic, tonal production and the art of bowing. Pupils having the requisite ambition are given ample opportunity to acquire these elements of playing. Advancement depends considerably upon natural ability and proper tuition, but principally upon hard work.

COLLEGIATE COURSE

First Year—Two octave scales in all major and minor keys; Sevcik, opus 1, book 1; Schradieck's School of Violin Technic; studies by Wohlfahrt, opus 45, books 1 and 2; solos by Dancla, Sitt, Bohm, Eulenstein and Ernst.

Second Year—Three octave scales in all major and minor keys; Schradieck's School of Violin Technic; Sevcik, opus 7, books 1 and 2; Kayser's Etudes, opus 20, books 1 and 2; Mazas, opus 36, book 1; solos by DeBeriot, Drdla, Ries, Dvorak, Tschaikowsky, etc; easy concertos and sonatas by Seitz, Sitt and Gurlitt.

Third Year—Scales in thirds, sixths, octaves and tenths; Sevcik opus 1, parts 3 and 4; Casorti, Technic of Bowing; Mazas, opus 36, book 2; etudes by Dont and Kreutzer; Solos by Wieniawski, Vieuxtemps, De Beriot, Hauser, Hubay, etc.; concertos by Viotti, De Beriot, Rode, etc.

Fourth Year—Advanced work in all subjects; graduate programs prepared; etudes by Alard and Wieniawski; Bach Sonatas; Paganini Caprices; concertos by Mendelssohn, Bruch, Vieuxtemps, Paganini, etc.

Wood-Wind and Brass Instruments

MR. JOHNSON

This department is one of the main factors in developing first class band and orchestra musicians.

Private lessons are given on the cornet, French horn, clarinet, saxophone, trombone, flute, oboe and bassoon.

Special emphasis is laid upon proper breathing and tonguing, band and orchestra routine, and other such technical requisites for the moulding of a true musician.

Harmony

ASSOCIATE PROFESSOR PETERSON

In the study of harmony, the older ideas of harmonizing a given melody or figured bass are discarded. The student is taught from the beginning to write his own melodies for harmonization, thus, while stimulating his originality and inven-

tive ability, taking from the study of harmony that mechanical and superfluous aspect so often too apparent to the pupil, and firmly establishing its proper place in the study of music.

COLLEGIATE COURSE

First Year—Scales, intervals, principal and secondary triads; melody writing, chords of the seventh.

Second Year—Dominant chord of the ninth and diminished sevenths; dominant forms of principal and secondary triads; altered chords and modulation.

Third Year—Counterpoint, single and double; canon and fugue.

Fourth Year—Composition in various rondo forms, sonata or suite; instrumentation.

This study is generally conducted in classes of four or five, but those who desire to make more rapid advancement may secure private lessons at special rates, according to the statement upon another page.

Band, Orchestra and Conducting

PROFESSOR CHRISTENSEN

The band is a military organization under the R. O. T. C. All students receive college credits for this work.

The band has a membership of about fifty pieces and has during the past few years played some of the best works by the great masters, including "Mignon Overture" by Thomas, "Second Hungarian Rhapsody" by Liszt, "Roman Carnival Overture" by Berlioz, Ballet music from "The Queen of Sheba" by Gounod, etc.

The Ladies' Band is a big factor in the musical life of State College. This band consists of forty young women who have played for important events such as "The Home-coming of the 147th Field Artillery" at Sioux Falls and other important engagements and have received flattering comments from every portion of the state. College credits are also given for this work.

The Symphony Orchestra is open to all students of the College who are proficient upon some instrument of the orchestra. A thorough study of classic and modern compositions is afforded. The orchestra plays at all important college functions and has successfully performed Beethoven's Second

Symphony, "Ruy Blas Overture" by Mendelssohn, "Fra Diavolo" by Auber, "Caprice Espagnol" by Rimsky-Korsakoff, etc. The orchestra also plays the accompaniments for all choral works given by the Choral Union.

Members of the band and orchestra who wish to learn conducting will be afforded the opportunity to become proficient in this important part of their musical education. This course is open only to students who have had the necessary musical experience. Some knowledge of harmony is necessary.

Music Essentials and Forms

ASSOCIATE PROFESSOR PETERSON

Principles of acoustics as applied to musical instruments; the orchestra; musical terminology; analysis of musical forms: simple song forms, arias, ballads and other vocal forms; the more simple forms of dance music, sonatina, sonata, canon and fugue.

History of Music

MISS COUGHLAN

This course follows the development of music and musical instruments from the earliest to the present time. This is a subject in which every music student should be well grounded and some knowledge of it is essential in the general educational equipment of every person who is at all musically inclined. The phonograph plays an important part in this study.

Ear Training

A special class in ear training and sight reading is included in the four years' course, conducted by a capable and experienced teacher. This study will be required of all music students.

Expenses of Students

The tuition for the regular work throughout the year is listed in the table of fees below and depends upon the instructor, subjects studied, etc.

The terms and prices to the student of the five months course in Agriculture will be the same as that for a term and a half, as given below.

Fees

The following fees will be charged a term for instruction:

Mr. Kohler, Mr. Christensen, Mr. Peterson, Miss Coughlan.	
Two half-hour lessons per week -----	\$24.00
One half-hour lesson per week -----	15.00
Miss Rink, Mr. Johnson.	
Two half-hour lessons per week -----	21.00
One half-hour lesson per week -----	12.00
Harmony, Counterpoint and Composition in classes of four or more—	
Two half-hour lessons per week -----	6.00
One half-hour lesson per week -----	3.50
History, Theory and Ear Training in classes, free to all students taking major work.	
Ensemble in strings or piano, in classes of four or more—	
One hour lesson per week -----	5.00
Public School Music in classes of four or more—	
Three one hour lessons per week -----	8.00
Practice pianos may be used at the following rates per term:	
One hour a day, \$3.00.	
Two hours a day, \$5.00.	
Three hours a day, \$6.50.	
Four hours a day, \$8.00.	
Organ Practice—	
Large pipe organ, per hour -----	.25
Practice organ, per hour -----	.10

THE SCHOOL OF AGRICULTURE

October 23, 1922 to March 14, 1923.

General Information

The School of Agriculture of South Dakota State College was organized in 1908 with an enrollment of about 100 students. Except during the war period there has been a steady increase in attendance. During this time 321 young men and women have been graduated from the course, and most of them have returned to make homes upon South Dakota farms.

The School of Agriculture is a unique institution in South Dakota. It has been planned and carefully organized with reference to a specific objective, viz., that of furnishing scientific training to young men and women chiefly from the rural districts who have not taken a regular high school course and who want a type of technical training not offered in a regular high school. The courses in the School of Agriculture are so organized that the student may secure a maximal amount of

practical knowledge in the shortest possible time. Five months of such intensive work enable these vigorous young people who attend this school to obtain a suprisingly large amount of valuable information.

Students of the School of Agriculture may earn credit during their summer vacation by completing work in agriculture or home economics provided this is done in accordance with the plans and under the supervision of the committee having charge of the summer project work. Those who wish to do such work should consult the Principal of the School of Agriculture for information as to how to proceed.

While the School of Agriculture work has not been outlined primarily as a preparation for college entrance, graduates of the school who enter the college courses will receive entrance credit for their work. The completed work of the four years course will count for ten of the fifteen units required for entrance. High school credit which has not been applied towards graduation in the School of Agriculture may be applied directly towards college entrance. Completed summer project work may be applied as electives on the School of Agriculture course, and thus allow the student to elect subjects which may be applied directly towards college entrance.

The necessary expenses of students in the School of Agriculture are very moderate. The registration fee is \$6 per year. Books, drawing instruments and stationery are furnished by the student. A laboratory fee averaging approximately \$2 per year is charged for the use of each laboratory in which the student takes work. (For list of laboratory fees see below.)

Good rooms can be secured by men in private homes at \$2 to \$3 a week for each person, if two persons occupy a room. Women are required to room and board in the dormitories where all the modern conveniences are furnished at very low cost.

Men and women may obtain board in the college dining hall at very reasonable rates (see below). Board in private houses is somewhat higher.

The Young Mens' Christian Association assists the students to find suitable living accommodations. Those who wish

such help should write to the Y. M. C. A. Secretary, South Dakota State College, Brookings, South Dakota.

On account of the rapidly changing conditions, it is not possible to make a very accurate estimate of the necessary expenses of a student for the term of 20 weeks. At the present time these are approximately as follows:

Estimate of Expenses

Board and room -----	\$130.00 to \$180.00	
Tuition -----	6.00	6.00
Student association fee -----	5.00	5.00
Business association fee -----	2.00	2.00
Laboratory fees -----	6.00	6.00
Books and supplies -----	15.00	25.00
Laundry -----	15.00	20.00
Incidentals -----	20.00	30.00
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	\$199.00	\$274.00

In addition to the above, women students are required to furnish themselves with suitable clothing, not necessarily expensive, for use in physical training. Men students above the first year, by virtue of their resignation in the College, belong to the Reserve Officers' Training Corps, and are furnished with uniforms by the National Government.

Outline of the Four Years Course for Young Men

First Year

	Rec. per wk.	Hrs. per wk.	Lab. per wk.	Credit
English I -----	4			4
Farm Arithmetic or Algebra -----	4			4
Military Drill and Physical Training -----		3		1
Animal Husbandry -----	2	4		3
Farm Crops (Cereals) -----	2	4		4
Carpentry -----		4		2
Horticulture -----	1	2		2
Hygiene -----	1			1
Farm Accounts -----				2
Summer project 1 to 3 credits optional				

Second Year.

English II -----	4			4
Plant Life, or -----	2	4		4
Algebra I or II -----	4			4
Military Drill and Physical Training -----	3			1

Dairying -----	2	2	3
Farm Crops (Forage Crops and Seeds)-----	3		3
Livestock Production and Management-----	2	2	3
Civics -----	3		3
Poultry -----	2		2
Veterinary -----	2		2
Summer project 1 to 3 credits optional			

Third Year

Chemistry -----	2	2	3
Military Drill and Physical Training -----		3	1
Soils -----	2	4	4
Feeds and Feeding -----	3		3
Rural Organization -----	3		3
Zoology -----	1	4	3
Farm Machinery and Motors -----	1	4	3
Elective -----			4
Summer project 1 to 3 credits optional			

Fourth Year

English IV -----	4		4
Military Drill and Physical Training -----		3	1
Entomology -----	1	2	2
Industrial History -----	4		4
Elementary Physics -----	3	2	4
Elective -----			8
Summer project 1 to 3 credits optional			

Electives for Third and Fourth Years

Advanced Blacksmithing -----		4	2
Advanced Stock Judging -----		4	2
Algebra -----	4		4
Geometry -----	4		4
Advanced Soils -----	2	4	4
Advanced Dairying -----	2		2
Cement Construction -----		4	2
English -----	4		4
Farm Management -----		6	3
Horticulture -----		4	2
Agricultural Publicity -----	1		1
Seed Testing -----		4	2
Public Speaking -----	2		2
Commercial Law -----	2		2

Outline of the Four Years Course for Young Women

First Year

	Rec. per wk.	Hrs. Lab. per wk.	Credit
Hygiene -----	1		1
Poultry -----	2		2
English I -----	4		4

Arithmetic or Algebra -----	4		4
Freehand Drawing -----		4	2
Elementary Clothing -----		6	3
Food Study -----		6	3
Physiology -----	3		3
Physical Training -----		2	1
Summer project 1 to 3 credits optional			

Second Year

Civics -----	3		3
English II -----	4		4
Plant Life or -----	2	4	4
Algebra -----	4		4
Craft -----		4	2
Elementary Dressmaking -----		6	3
Food Preparation and Service -----		6	3
Textiles and Laundry -----	2	2	3
Physical Training -----		2	1
Summer project 1 to 3 credits optional			

Third Year

Home Gardening -----	1	2	2
Dairying -----	2	2	3
Elementary Chemistry -----		6	3
Dressmaking -----		6	3
House Problems -----		6	3
Elementary Dietetics and Table Service -----		6	3
Physical Training -----		2	1
Art Needlework -----		4	2
Rural Organization -----	3		3
Summer project 1 to 3 credits optional			

Fourth Year

English IV -----	4		4
Elementary Physics -----	3	2	4
The House -----		6	3
Clothing Problems -----		6	3
Millinery -----		2	1
Physical Training -----		2	1
Industrial History -----	4		4
Elective -----			3
Summer project 1 to 3 credits optional			

LABORATORY FEES—SCHOOL OF AGRICULTURE

Agronomy	
Farm Crops (1st year) -----	\$1.00
Farm Crops (2d year) -----	1.00
Soils -----	1.00
Soils, Advanced -----	2.00
Animal Husbandry	
Stock Judging, Elementary -----	1.00

Stock Judging, Advanced -----	1.00
Botany -----	2.00
Chemistry -----	2.00
Dairy Husbandry -----	
Dairying (Men) -----	1.00
Dairying (Women) -----	1.00
Entomology -----	2.00
Home Economics -----	
Elementary Clothing -----	1.00
Clothing Problems -----	2.00
Elementary Dressmaking 2d year -----	.50
Dressmaking 3d year -----	.50
Elementary Dietetics and Table Service -----	3.00
Food Study -----	3.00
Food Preparation and Service -----	3.00
Household Problems -----	3.00
Millinery -----	1.00
Textiles and Laundry -----	2.00
Manual Training -----	
Carpentry -----	2.25
Blacksmithing -----	1.50
Advanced Blacksmithing -----	1.50
Physics -----	2.00
Zoology -----	2.00

ONE YEAR COURSE IN COMMERCIAL SCIENCE

September 18, 1922 to June 7, 1923

This course is offered for those who must enter business with less preparation than a full college course. Those who enter it should have completed a four years high school course or 15 units of entrance work as indicated in connection with the college courses leading to degrees. Certificates are given those who satisfactorily complete the work as outlined.

The tuition and other fees are the same as those required for other college work.

	Fall	Winter	Spring
Shorthand; Commerce 5a, 5b, 5c -----	5	5	5
Typewriting, Commerce 6a, 6b, 6c -----	3	3	3
Rhetoric, English 1a, 1b, 1c, -----	3	3	3
Business Law, Commerce 2 -----	3		
Business Organization and Control, Commerce 3 -----		3	
Money and Banking, Commerce 4 -----			3
Accounting, Commerce 1a, 1b, 1c -----	3	3	3
Secretarial Practice, Commerce 7 -----			0
	<hr/> 17	<hr/> 17	<hr/> 17

TRACTOR AND AUTO-MECHANICS SCHOOL

September 18, 1922 to June 7, 1923

The purpose of this course is to give a complete training in the operation, care and repair of gas engines, automobiles and tractors, fitting students for tractor road work, tractor repair work and garage work.

This work is entirely separate from the School of Agriculture course.

Requirements for entrance

Applicants for entrance to the course should be at least sixteen years of age and have a good reading and writing knowledge of the English language.

Written Application for Entrance Necessary

Because of limited facilities, the College will not accept more than ninety men for this course. However, a large number of additional men can be accommodated in the special two weeks tractor schools mentioned below. Those who wish to enter should not come to the College before making written application and ascertaining beforehand whether or not they can be accommodated. For special application blank write to the Registrar, State College, Brookings, South Dakota.

As a prompt beginning at the opening of each term is necessary to the success of the work, no one will be admitted after October 4 in the fall term and after January 10 in the winter term. A new class will begin work in each of the branches at the beginning of each term.

Expenses

The tuition is \$4.00 a term, or \$12.00 for the year. There are also laboratory fees to cover the cost of special materials used in the shops, 25 cents per hour being charged for time spent in acetylene welding, and \$3.00 for a term's work in each of the shops. Each student is expected to purchase a small roll of tools costing about \$10.00.

Good rooms and board may be obtained at private houses. The College maintains a dining hall in connection with the wo-

men's dormitories, and furnishes board at a very reasonable rate. During the year just closing, the cost of board in the hall has been about \$5.00 a week.

Equipment

An entire building on the campus is devoted to this work, It is completely equipped with modern tractors, automobiles, and gas engines. The laboratories and shops, are fitted up with tools and machinery of the latest design. Besides the equipment in this building there are two more shops located in the Engineering building. These two shops, the machine shop and the blacksmith shop, are the very best and each student is expected to master the use of all this equipment by actual practice under the guidance of an instructor, and at the same time to learn the theory and the best methods for all phases of the work.

Tractor and Auto-Mechanic Course

To complete this course will require nine months of forty hours' work each week. At least six hours a week for each subject is required to complete the full course. One term of Acetylene Welding, Blacksmithing and Machine Shop is required with the Automobile Electricity and Auto Shop work. Three hours a week in English and three hours in arithmetic are also required of those who have not finished the eighth grade.

For special application blank and special bulletin giving outline of the work, write to the Registrar, State College, Brookings, South Dakota.

Special Two Weeks Tractor Schools

During the late winter and spring there will be conducted special tractor schools of two weeks each in which the different kinds of tractors will be studied. These courses will be entirely separate from the regular auto-tractor course, although the students of the auto-tractor course will have the advantage of these demonstrations without extra charge. A tuition fee of \$2.00 will be charged for attendance at a two weeks course. Men wishing to spend two weeks in the study of two tractors should write to the College for dates, and specify the kinds of tractors in which they are interested.

SCHOOL OF PRINTING

To meet the ever increasing demand for compositors, linotype operators, and pressmen the College installed in 1920 a complete Printing plant consisting of slug casting machines, cylinder and platen presses, folder, stitcher and composing room equipment. Twenty different courses are offered. Students receive training that enables them to fill positions in the average shop as compositors, linotype operators and machinists, pressmen and foremen.

The young man who fits himself to become a printer, having assured himself of the opportunities afforded him, should take stock of his ability and inclinations. While previous printing experience is not an entrance requirement, a candidate for admission is asked pointedly why he desires to take the course and what his definite ambition is. If, through family or business connections, his future is plainly marked, the nature of the business he expects to enter is discussed with his aptitude for such work. It is particularly important that the student recognize his need for a broad, liberal education—in other words for those general and related studies in the curriculum which are intended for mental stimulus and development. The student should also consider his personality, recognizing that the successful printer must be able to take his share in the activities of the business world, and that such ability is frequently cultivated by school association and experience.

The tuition is \$4.00 per term. Laboratory fees are charged at the rate of \$1.00 per credit for work in the Printing Trades and \$2.00 per credit in Linotype operation.

A "credit" in these subjects requires three clock hours of laboratory work each week for twelve weeks, or a total of thirty-six clock hours. Thus a student who is carrying five credits in the Printing Trades would spend fifteen clock hours a week for the twelve weeks, for which he would be required to pay a laboratory fee of \$5.00. The laboratory fee for the same time spent in Linotype operation is \$10.00.

Students are admitted to these courses at intervals of six

weeks—at the beginning and middle of each term of the college year and at the beginning of the Summer School. Students should write to the Director of the School of Printing for application blanks before coming to the College.

For additional information regarding courses and other details, write to the Director of School of Printing, State College, Brookings, South Dakota.

THE THREE MONTHS CREAMERY COURSE

January 3 to March 14, 1923

This course is especially designed for young men wishing to fit themselves for various positions connected with the creamery industry such as helpers, buttermakers and managers.

Prospective students are urged to get at least six months of practical experience in some creamery before attending college, as by this means it is found that much greater benefit is derived from the work at school.

The more general application of scientific principles to the manufacturing industries as well as the increasing competition on all sides demands a more thorough training in scientific and business methods than heretofore. This is no less true with regard to the creamery industry; and while the practical work of the school is by no means neglected, special pains are taken to teach the underlying principles and the "reason why" for many of our daily operations. The increasing interest in dairying in South Dakota is creating a demand for men well trained along dairy lines and applications for such are constantly being received at good salaries. Worthy students may count on the co-operation of the dairy department in helping them to secure positions at the close of their college work.

Factory Operation, 4 hours each forenoon

Testing Milk and its Products, 5 hours each week

Creamery Calculations and Bookkeeping, 3 hours each week

Dairy Bacteriology, 2 hours each week

Dairy Cattle Management, 4 hours each week

Dairy Laws, 1 hour each week

The tuition is four dollars for the three months' term with a small additional fee for laboratory expenses.

A certificate of standing will be issued to all students passing satisfactory examinations in the above subjects.

Address the Dairy Husbandry Department for special bulletin describing this course and other work of the Dairy Department.

CORRESPONDENCE COURSES

South Dakota State College now offers two correspondence courses, one in agriculture and one in home economics. Credit obtained in these courses may be applied toward college entrance. The course in agriculture is along the line of animal production and management. The course in home economics comprises both cooking and sewing. The fee for each course is \$5, the student buying his own texts. Free bulletins are furnished by the College. Farmers, housewives, rural teachers, clubs and societies may pursue these courses to advantage. Other courses will be organized as the demand for them increases.

College Alumni

ALUMNI ASSOCIATION

I. J. Bibby, '12	-----	President
C. J. Johnson, '15	-----	First Vice President
Edith Hubbard, '08	-----	Second Vice President
E. H. Haahr, '21	-----	Third Vice President
H. B. Mathews, '92	-----	Secretary and Treasurer
E. R. Serles, '15	-----	Assistant Secretary

The numerals appearing after a name indicate the year the degree of Bachelor of Science (B.S.) was received. Other degrees are followed by the year the degree was received. Master of science is indicated by the abbreviation (M.S.), Electrical Engineer by (E.E.), Mechanical Engineer by (M.E.), Civil Engineer by (C.E.), Pharmaceutical Chemist by (Ph.C.) and Graduate in Pharmacy by (Ph.G.)

- Abbott Cleveland, '16, Professor of Dairying, Industrial and Educational Inst., Topeka, Kansas
- Abbott, Guy, Ph. G. '09, Druggist, Yale
- Abbott, Walter, Ph. G., '15, Druggist, Tyndall
- Ahlers, Naomi (Hoover), '18, Marshall, Minn.
- Ainsworth, Cephas, '97, Real Estate, 1147 E. 3d St., Winona Apts., Long Beach, Cal.
- Ainsworth, Ernest, '17, Dairyman, Blue Valley Creamery Co., 211 N. Kleine St., Springfield, Illinois
- Ainsworth, H. H., '98, Fruit Grower, R. F. D. No. 17, Mountain View, California
- Ainsworth, Flora (Hazle), '98, 385 Gladys Ave., Long Beach, Cal.
- Aldrich, Dorothy (Jones), '19, Brookings
- Aldrich, Irwin D., '91, State Immigration Commissioner, Pierre
- Aldrich, John M., '88, M. S. '91, Associate Curator of Insects, National Museum, and Secretary National Entomological Society, Washington, D. C.
- Aldrich, Malcolm, '06, Prin. Calhoun School, 3220 2nd Ave. S., Minneapolis, Minn.
- Allen, Hart M., '00, Druggist, Venice, Cal.
- Allen, Wm. C., '90, Died in Chicago, Ill.
- Allison, Andrew M., '20, Prof. of Chemistry, Sioux Falls College, Sioux Falls
- Allison, Arthur, '16, Electrical Engr., G. E. Co., 1169 Broadway Schenectady, N. Y.
- Allison, Harold, Ph G. '06, Physician, Amity, Ore.
- Allison, Wm. F., '95, Ph. G. '02, Prof. of Civil Eng., U. of Wash., Seattle Washington
- Almond, Fred C., '03, Died at Clear Lake, S. D., March 12, 1909
- Alton, B. H., '08, M. S. '10, Physician, 72 Pearl St., Worcester, Mass.
- Anderson, Alvia, '20, Instructor Home Economics, Wessington
- Anderson, A. Edward, Ph. G. '16, Druggist, Brookings
- Anderson, Einar J., '21, Principal High School, Canton
- Anderson, Ernest, Ph. G. '04, Druggist, 302 S. Main, Aberdeen
- Anderson, Eldon, '17, Co. Agr. Agent, Ft. Pierre
- Anderson, Clark M., '00, Died at Brookings, March 6, 1902
- Anderson, Georgia, '16, Instr. H. Ec., Harlowtown, Mont.
- Anderson, Leon, '17 Farmer, Rapid City
- Aney, Roy, '20, Vocational Agr. and Co. Club Leader, Crosby, N. D.
- Armstrong, Inez (Hunt), '14, Home Demonstration Agent, Yakima, Wash.

- Bisby, Guy, '12, Ph. G. '12 Prof. Plant Pathology, Agricultural College, Winnipeg, Canada
 Bissel, Wm. E., Ph. G. '18, Druggist, Plankinton
 Bittner, Albert, Ph. G. '18, Druggist, Cresbard
 Blakely, Clifford, '18, County Agr. Agent, White River
 Bolland, Jens, '15, M. S. '16, Died in Minneapolis, November, 1919
 Bolles, Laura, '01, Science Instructor, State Normal, Kearney, Neb.
 Bolles, Myrick N., '98, Farmer, Flandreau
 Bonesteel, Bee (Dillman), '06, care of U. S. Dept. of Agriculture, Washington, D. C.
 Boswell, Katie (Arnold), '89, Kennebec
 Boswell, Mildred (Ames), '18, Brookings
 Boyd, Mary (Labbitt), '01, 2709 S. Glass St., Sioux City, Iowa
 Boyden, Frank E., '97, Ph. G. '02, Physician, 116 Lewis St., Pendleton, Oregon
 Boyden, Guy L., '05, Physician, 909 Stevens Building, Portland, Ore.
 Briggs, Elmer E., Ph. G. '95, Died at Madison, Wis., April, 1922
 Briggs, S. F., '07, Briggs-Stratton Co., Electric Supplies, 1047 Lewis Ave., Milwaukee, Wis.
 Brigham, Ruth, '13, Teacher, Brinklow, Md.
 Britzius, Arno, '14, Farmer, Madison
 Brosseau, Jesse E., '01, Ph. G. '00, Physician, Frankfort
 Brown, Cecil L., '19, Science Instructor, Motley, Minn.
 Brown, C. O., '94, District Judge, Douglas, Wyoming
 Brown, Geo., Ph. G., '10, Pharmacist, Clark
 Brown, J. A., '94, M. S. '96, Attorney, Burr & Brown, Lincoln, Neb.
 Brown, Sarah, '95, Teacher, Shannon City, Iowa
 Brownell, Ellen (Wellington), '06, R. R. A, Box 88, Calipatria, Calif.
 Browning, Albert, '19, Supt. City Schools, Lake Preston
 Browning, Lenore, (Cummins), '17, Mandan, N. D.
 Bruce, Marion Nelson, '21, Farmer, Wall
 Bryant, Gladys, (Harper), '19, Instructor H. Ec., Bowman, N. D.
 Bucholz, Rudolph, '20, Asst. State Dairy Inspector, S. D. S. C.
 Buck, Bonnie Laura, '21, Instructor in Home Economics, Woonsocket
 Buck, Ruth, '20, P. G. Student, Northwestern University, Evanston, Ill.
 Buck, E. R., Ph. G. '09, Hotel Proprietor, Wessington Springs
 Bulger, Jacob W., '19, P. G. Student, State University, Columbus, Ohio
 Bunday, Ray A., '20, Instructor in Science, Letcher
 Burch, W. S., '07, Electrical Engr., Rochester Gas and Electric Co., 81 S. Fitzhugh St., Rochester, N. Y.
 Burghardt, Roy, '06, Electrical Supplies, Burghardt and Hauff, 1007 1st Ave., Seattle, Wash.
 Burge, Violet M., '21, Instructor in Home Economics, Sherman
 Burton, Starling, Ph. G. '16, Pharmacist, 3227 Starr St., Lincoln, Neb.
 Bushey, Alfred, '14, Assistant Prof. Agronomy, S. D. S. C.
 Bushnell, Edna (Lindahl), '09, Roseau, Minn.
 Bushnell, Maud (Kelton), '04, Poynette, Wis.
 Caldwell, Florence (Heck), '15, Forests Products Lab., Madison, Wis.
 Caldwell, Genevieve, '20, Instructor Home Economics, Clear Lake
 Caldwell, Jessie, '18, Instructor H. Ec., Geraldine, Montana
 Caldwell, Kate (Weber), '16, 105 Spooner St., Madison, Wis.
 Caldwell, Lacey, '15, Farmer, Wells, Minn.
 Calkins, Fred, '16, Electrical Engr., Ballstrom Lake, New York
 Camp, Fred, '09, 104 E. 10th Ave., Spokane, Wash.
 Campbell, Dyer H., '20, Merchant, Woodrow Apt. 1, Rochester, Minn.
 Carlson, Ella (Howard), '00, Lake Preston

- Carlson, Esther (Lilygreen), '00, 701 Magnolia St., St. Paul, Minn.
 Carpenter, Abbie (Challman), '06, E. 1121 Nora Ave., Spokane, Wash.
 Carpenter, Clarence, '07, Electrical Engr., Dakota Power Co., Rapid City
 Carr, George, Ph. G. '99, Druggist, Bison
 Carter, Louis W., '96, Postmaster, Highmore
 Carson, Donald M., Ph. G., '21 Pharmacist, Mott, N. D.
 Casley, Lulu, '14, Prin. High School, Bryant
 Catlett, Marguerite (Smith), '11, Rapid City
 Catlett, Winifred (Swering), '09, 174 Farrington Ave., Hartford, Conn.
 Chamberlain, Sarah (Spoonner), '91, Physician, 4525-4th Ave., Detroit, Michigan
 Champlin, Manley, '09, Professor Field Husb., Saskatchewan Agr. College, Saskatoon, Canada
 Chapman, Daphne (Series), '16, Brookings
 Chappell, Bessie, '05, Professor of Home Economics, University of Wyoming, Laramie
 Chappell, Elsie (Wilson), '05, Brookings
 Chappell, Genevieve, '20, P. G. Student, State University, Laramie, Wyo.
 Chappell, Mabel (Safford), '17, Sioux Falls
 Chappell, Vincent, '14, Professor of Dairy Mfg., Oregon Agr., College, Corvallis, Oregon
 Chase, Elizabeth, '20, Science Instructor, Chester
 Chase, Marcus, '21, Science Instructor, Huron
 Chilcott, E. C., M. S. '98, Agronomist in Charge of Dry Land Agr., Washington, D. C.
 Chilcott, E. F., '06, Superintendent Dry Land Experiment Station, Woodward, Okla.
 Chilcott, Ralph E., '07, Farmer, Vienna, Va.
 Christianson, Christine (Buck), '07, 1518 S. Washington St., Denver, Colo.
 Christianson, Bennett C., Ph. G. '02, Druggist, Volga
 Christianson, Helen (Quinn), Ph. G. '12, Badger
 Christianson, Mable, Ph. G. '19, Pharmacist, 100 S. Phillips Ave., Sioux Falls
 Clark, Esther, '18, Instr. H. Ec., State Normal, Valley City, N. D.
 Clark, Gladys (Cook), '19, Humboldt
 Clark, Robert, Ph. G., '12, Died in Sioux Falls, Mar. 26, 1916
 Clarke, Roy, '09, Supt. Schools, Oregon City, Oregon
 Clarke, Bruce, Ph. G. '15
 Clevenger, John W., '97, Ph. G. '98, Dentist, Chamberlain
 Clifford, Perry, '14, Farmer, Cresbard
 Cole, Glenn H., '13, Farmer, Gary
 Cole, John S., '03, Asst. Director Dry Land Experiment Stations, 430 Newton Place N. W., Washington, D. C.
 Colegrove, Ina (Nelson), '99, 11 Haviland St., Worcester Mass.
 Colegrove, Letta (Drew), '03, 1816 Kalorama Road, Washington, D. C.
 Coller, Fred A., '06, M. S. '08, Asst. Professor of Surgery, State University, Ann Arbor, Mich
 Collinge, Verne, '19, Instructor Agriculture, Northern Normal and Industrial School, Aberdeen
 Cook, Orlan P., '19, Instructor Manual Training, Humboldt
 Cooledge, Leslie, '11, Research Associate in Dairy Bacteriology, Agr. College, East Lansing, Michigan
 Cooley, Hazel (Keddie), '15, Bear Lake, Mich.
 Cooley, W. R., '07, Farmer, Springfield

- Colliton, Ora, Ph. G. '15, Pharmacist, 487 Dayton Ave., St. Paul, Minn.
 Connell, John C., Ph. G. '00, Druggist, Luverne, Minn.
 Connely, Emma, Ph. G. '19, Pharmacist, Brown Valley, Minn.
 Corkhill, Clifford, Ph. G. '16, Pharmacist, Hurley
 Cornell, Edwin C., Ph. G., '01, Druggist, 1344 Thomas St., Minneapolis, Minn.
 Cornell, H. M., '95, Dep. State Bank Examiner, Mott, N. D.
 Cornwall, Floyd, Ph. G. '19, Pharmacist, Webster
 Cotter, J. C., Ph. G. '96, Implement Dealer, Dell Rapids
 Cottingham, J. T., '11, Lumber Dealer, Hastings, Neb.
 Coughlin, Chas., '09, Mgr. Ladish Drop Forge Co., Cudahy, Wis.
 Coughlin, Thomas, '20, Sec. K. C. Club, Huron
 Cram, Elmer E., '21, Instr. Man. Tr., Milbank
 Crane, Austin B., '91, M. S., '03, Drainage Specialist, 2208 Hoyt Ave. Everett, Wash.
 Cranston, Margaret (Young), '01, Died at Oakes, N. D., June 7, 1907
 Cranston, May (Crane), '89, 2208 Hoyt Ave., Everett, Wash.
 Crofoot, Vanita, '18, Principal High School, Courteney, N. D.
 Crosby, L. J., Ph. G. '09, Druggist, Hitchcock
 Cross, Alvah Geo., '89
 Crothers, Harold, '10, Asst. Prof. Electrical Eng., University of Wisconsin, Madison
 Crothers, Ralph, '10, Farmer, Badger
 Crowley, D. C., Ph. G. '99, Auto Dealer, Willey-Knight Co., San Jose, Calif.
 Cuckow, Fred W., '03, Attorney, La Junta, Colo.
 Culhane, Alex., '15, Proprietor Milk Depot, Huron
 Culhane, Chas. M., '20, Instr. Agriculture, Bryant
 Culhane, Jas., '15, Electrical Engr., Des Moines Electric Co., 2209-9th St., Des Moines, Ia.
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- Fridley, Richard, '11, Died at Lake Benton, Minn., August 23, 1912
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- Fryer, Florence E., '20. Instr. in English, Troy, Mont.
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- Furnish, Alta (Fridley), '17, Conde
 Furnstahl, John, '09, Died at Ajo, Ariz., Dec. 16, 1916
 Gagel, Gerald, '07, Died at Bauming, Calif, June 1, 1919
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 Gropengieser, Bessie, '14, Abstractor, Onida
 Gropengieser, Fred, '11, Died at Onida, S. D., December 15, 1918
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 Harben, Bartlett, Ph. G., '06, Died at Winner, S. D., June 10, 1912
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- Holliday, Lloyd, '18, Brookings
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- Hurlbert, Roy O., '19, Farmer, Raymond
- Husted, Harley H., '97, Died at Lincoln, Nebr., Jan. 14, 1907
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- Hutchinson, Hazel, '21, Instr. Home Ec., Webster
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 Johnson, Clifford, '11, Died at Huron, September 1911
 Johnson, Edw., '02, Died at Tacoma, Washington, May 1, 1907
 Johnson, Gustav, '19, Farmer, Norden
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 Johnson, Issac B., '03, Lumberman, Brookings
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 Johnson, Milla (Anderson), '10, Died at New England, N. D., Nov. 1918
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- Swift, Cecil (Porter), '20, Instr. H. Ec., Geneva, Nebr.
- Swift, Eugene, '17, Farmer, Estelline
- Tabor, Floyd, Ph. G., '16, Pharmacist, Garretson
- Tanzy, Marvin F., '94, Died at Canton, S. D., February 8, 1900
- Taylor, C. DeWitt, Ph. G. '99
- Templeton, Mable (Johnson), '13, Hetland
- Thelin, Guy, '20, Instr. Agr. College, Amherst, Mass.
- Thogerson, A. A., '05, Contractor, Yankton
- Thomas, J. C., Ph. G. '02, Druggist, Marion
- Thompson, Albert M., Ph. G. '17, Druggist, Belgrade, Minn.
- Thompson, Clarence, '04, Ph. G. '05, M. S. '05, Garage Owner, 119 S. Main Ave., Sioux Falls
- Thompson, Gottfried, Ph. G. '04, Physician, Sioux Falls
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- Thornber, J. J., '95, Prof. of Botany, & Director U. S. Exp. Sta., State U., Tucson, Ariz.
- Throop, Lotta (Odland), '11, Hurley
- Tidbill, Clyde, '01, Druggist, Brookings
- Thornber, Mary (Cuckow), '02, La Junta, Colo.
- Thornber, Walter S., '97, M. S. '99, Fruit Grower, Lewiston, Idaho
- Thornber, Wm. F., '98, Farmer, Colman
- Throop, Lotta (Odland), '01, Hurley
- Tidball, Clyde, '01, Druggist, Brookings
- Tinker, Mable, '11, Clerk, Brookings
- Tolagson, Clarence, Ph. G. '15, Pharmacist, Brookings
- Tommeraaen, Corne, Ph. G. '13, Pharmacist, Larchwood, Iowa
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- Tompkins, Blanche, '20, Instr. H. Ec., Hayti
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- Treacy, Timothy, '09
- Trenner, Ephraim, '20, Died Feb. 26, 1921 at Brookings
- Trooien, Ole M., '02, M. S. '04, Died at Brookings, S. D., December 21, 1915
- Trumm, Archie, Ph. G., '18, Pharmacist, Hayti
- Trumm, R. E., Ph. G. '03, Druggist, Hayti

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 Wagner, Colman, '17, Farmer, Selby
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 Walseth, Russell, '20, Farmer, Clear Lake
 Walter, L. Erving, '04, M. S. '05, State Chemist, U. of Wyo., Laramie
 Walters, Daisy, '05, Teacher, Bruce
 Walters, Edith (Fystrom), Died at Geneseo, N. D., May 16, 1910
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 Freeman
 Waltner, Caroline, '17, Instructor H. Ec., Freeman Academy, Freeman
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 West, George H., '99, Physician, Armstrong, Ia.

- West, Hugh H., '91, Ph. G. '00, Physician, Spurling Building, Elgin, Ill.
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Wilson, Frank, Ph. G. '09, Dental Student, Portland, Ore.
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Winegar, Albert J., '92, Life Insurance, Beloit, Wis.
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Wood, Ruth (Burton), '13, Librarian, Hot Springs
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Yeamans, Bessie, '21, Instr. H. Ec., Bonesteel
Yocom, Frank, '10,
Young, A. J., Ph. G. '03, Farmer, Adanac, Saskatchewan, Canada
Young, Grace (Bullen), '97, Died May 1921, at Portland, Ore.
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Ziegler, Pearl (Janssen), '21, Instr. H. Ec., School of Agr., S. D. S. C.
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Student List

The following abbreviations are used to indicate the different lines of study students are pursuing: Agr.—Agriculture; A. M.—Auto Mechanics; C. E.—Civil Engineering; Com.—Commercial; Cor.—Correspondence; Cream.—Creamery Short Course; E. E.—Electrical Engineering; Engin.—Engineering; Fresh.—Freshman; G. S.—General Science; H. E.—Home Economics; Jr.—Junior; M. E.—Mechanical Engineering; Phy.—Pharmacy; Prep.—Preparatory; Ptg.—Printing; Secy.—Secretarial; Soph.—Sophomore; Sr.—Senior.

COLLEGIATE

POST-GRADUATES

Banker, Paul, Brookings
Beard, W. P., Brookings
Bennett, Lyle L, Canton
Biggar, George, Brookings
Demary, Jackson, Seneca Falls, N. Y.
Dolve, Mary, Hatton, N. D.
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Hewett, Howard, Arlington
Hogstad, Anton Jr., Brookings
Hutton, Lynn D., Brookings
Janssen, George, Brookings
Jones, Horace M., Brookings
McCullough, Halle D., Brookings

Mathiesen, Homer A., Watertown
Maugh, Lawrence, Milford, Mich.
Mills, Oscar, Wall
Olson, Clarence, Brookings
Rottluff, Karl, Sioux Falls
Stumley, Alfred M., Volga
Sutter, Clara, Brookings
Valentine, George, Brookings
Walseth, Edwin, Brookings
Walseth, Russell, Clear Lake
Weaver, Gilbert S., Brookings
White, M. C. Brookings
Wilder, Susan Z., Minneapolis, Minn.

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Abrahamson, Ada (GS) Howard
Atkinson, Ruth (GS) Brookings
Beals, Dan (Agr) Brookings
Bergeson, Ragnvald (EE) Brookings
Bjur, Emil (EE) Brookings
Brietson, Abner J., (GS) Brookings
Brinker, Charles (EE) Madison
Brown, Esther (HE) Brookings
Burkhart, Lyle (GS) Pierre
Clark, Velda (GS) Wessington Springs
DeBoer, Dewey (EE) Corsica
Doner, Edna Beals (HE) Brookings
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Forsee, Zeta (HE) Brookings
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Haroldson, Robert (CE) Brookings
Helgerson, Art (CE) Canton
Jarman, Ruby (GS) Brookings
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Thorner, Hubert (CE) Colman
Towers, Ralph (CE) Clear Lake
Underwood, Paul (Agr) Willow Lake

JUNIORS

Aldrich, Merton (Agr) Pierre
Anderson, Marion (EE) Estelline
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Backman, Adolph (Agr) Shadehill
Barber, Winifred (GS) Newell
Beatty, Audrey B. (HE) Elrod
Belk, Vida (GS) Henry
Bemies, Carl L. (GS) Brookings
Bemies, Clifton S. (GS) Brookings
Billings, Floyd (Agr) Yankton
Blecker, Samuel (GS) Brookings
Brown, Elizabeth (GS) Brookings
Bulger, Raymond (Agr) Brookings
Carey, Eugene (EE) Salem
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Goplin, Grace (Music) Edgerton, Minn.
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Griffith, Wm. Mibra (Agr) Cresbard
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Halversen, Mamie (HE) Brookings

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 Welty, Earl (GS) Brookings
 Wold, Ruby (HE) Brookings
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 Craun, Violet (Pharm) Willow Lake
 Croft, Everett (Com) Chamberlain
 Dempster, Anna (HE) Brookings
 DeRoos, Fred (Pharm) Avon
 Dodds, Russell (GS) White Lake
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 Dunn, Ida (Com) Farmer
 Eldredge, Zella (GS) Volga
 Emmelius, Beatrice (GS) Iroquois
 Ennis, Audrey (Pharm) Volga
 Fairchild, Emma (Com) Elbon
 Farrar, Earl L. (Com) Britton
 Forney, Neva (GS) Alexandria
 Forsee, Frances L. (GS) Brookings
 Fox, Regina (GS) Doon, Iowa
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 McGill, Emily (HE) Brookings
 McKean, Everett (GS) Midland
 Martin, Emmett B. (CE) Brookings
 Mathews, Zoa (HE) Brookings
 Mears, Kirk (Agr) Brookings
 Merriman, Chas. (CE) Bowdle

Monfore, Howland (Com) Springfield
 Moore, John (GS) Edgeley, N. D.
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 Myre, Alvilda (HE) DeSmet
 Nelson, Vivian (Com) Pierre
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 Westover, Carlos (Agr) Blunt
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 Wilson, Bernice (Pharm) Doland
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FRESHMEN

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 Ambroz, Walden (EE) Fairfax
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 Anderson, Blanche (GS) Estelline
 Anderson, Edna R. (HE) DeSmet
 Anderson, Joe (Agr) Ames, Iowa
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 Arner, Frances (Com) Redfield
 Ash, Clair (Pharm) Garden City
 Ayres, Elanor (Com) Chamberlain
 Baldwin, Wayne (GS) Hot Springs
 Bartlett, Ella (GS) Brookings
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 Bender, George (Pharm) Brookings
 Boden, Gladys E. (Com) Luverne, Minn.
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 Cach, Frances (Com) Scotland
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 Caldwell, Ruth (HE) Brookings
 Callan, James (Pharm) Custer
 Carlson, Maud (Com) Brookings
 Carter, Lyle (Pharm) Sisseton
 Christensen, Ella (HE) Wessington Springs
 Christenson, Melvin (Pharm) Sisseton
 Cleaver, Jonathan (Com) Hot Springs
 Coffey, Robert (CE) Watertown
 Cole, Marjorie (Music) Brookings
 Colfix, Eldridge (Pharm) Fulton
 Cooper, Roland (EE) Ipswich
 Corkill, Duane (Pharm) Hurley
 Corrington, Helen (Com) Brandt
 Coulter, George (Agr) Ipswich
 Coyne, Edmund (Com) Ethan
 Coyne, Leo C. (Com) Ethan
 Crowe, C. Merlin (GS) Osakis, Minn.
 Deady, Carl L. (GS) Faulkton
 Deethardt, Theo. (EE) Brookings
 Dexheimer, Philip (Agr) Spencer
 Doner, Harold (Agr) Brookings
 Dott, Robert O. (GS) Whitewood
 Drew, Allan (Com) Chamberlain
 Dunlop, Robert (Com) Chicago, Ill.
 Dybvig, Henry G. (EE) Colton
 Eagle, G. (Pharm) Wessington Springs
 Eberhard, Wesley (EE) Lane
 Edwards, Lucile (HE) Capa
 Edwards, W. Kenneth (GS) Bruce
 Eggleston, Clarence (GS) Iroquois
 Elmer, Nowland (CE) Avon
 Englehorn, Carl (Agr) Wagner
 Erie, John (GS) Brookings
 Estensen, Mable (GS) Sherman
 Fassett, Violet (GS) Brookings
 Fenn, Forrest (Agr) Brookings
 Fish, Francis F. (Agr) Ipswich
 Fjerstad, Harold (GS) Elkton
 Foss, Byron (Com) Clark
 Franco, Josephine (HE) Ivanhoe, Minn.
 Freseman, Clarence (Agr) Lennox
 Gannaway, Frank (Com) Chamberlain
 Gifford, Vivian (HE) Clear Lake
 Girton, Clifford (AM) Brookings
 Goodman, Clifford (Pharm) Lead
 Greener, Dorothy (GS) Faulkton
 Gregory, Clark (GS) Alexandria
 Greguson, Helmer (Agr) Canton
 Grove, Vernon (Pharm) Arlington
 Halverson, Lewis (Agr) Brookings
 Hansen, Arthur (CE) Doland
 Hansen, Carl A. (Agr) Brookings
 Hansen, Eva R. (Pharm) Kadoka
 Hanson, Lola (Com) Brookings
 Harrison, Mary (GS) Twin Brooks
 Harvey, Flora (HE) Pierre
 Harvey, Leonard (GS) Pierre
 Hasle, Theodore (GS) Brookings
 Heber, Walter (GS) Vienna

- Heinz, Bernard (Com) Langford
 Herman, Dorothy (Music) Brookings
 Herold, Roy D. (E E) Waubay
 Herrboldt, Albert (Com) Hosmer
 Hinde, Richard (Agr) Forestburg
 Hoch, Alfred A. (Com) Elkton
 Hoon, Lester (Agr) Ames, Iowa
 Hoover, Donald (E E) Columbia
 Hoover, Kenneth M. (E E) Groton
 Houghton, Beatrice (H E) Willow Lake
 Hoy, Marguerite (H E) Brookings
 Hoyt, Mrs. Esther (H E) Brookings
 Hoyt, Myron A. (G S) Brookings
 Hubbard, Eleanor D. (H E) Brookings
 Hutton, Helma (H E) Brookings
 Ihli, Magdalena (H E) Pierre
 Innes, Clayton (G S) Brookings
 James, Leona (Com) Brookings
 Jeglum, Chester (G S) Toronto
 Jensen, Melvin (G S) Lake Preston
 Johnson, Axel (G S) Watertown
 Johnson, Helen (G S) Brookings
 Johnston, Marian (H E) Quinn
 Jones, George (C E) Mitchell
 Jones, Morris (Pharm) Plana
 Kallestad, Audil M. (H E) Garretson
 Kenyon, Virgil B. (G S) Gary
 Kingsbury, Verne C. (Com) Philip
 Krause, Arthur (Pharm) Leola
 Kreger, Stuart (C E) Clear Lake
 Kuhlman, Alvin F. (G S) Beaver Dam, Wis.
 Kuper, Lester (Com) Lennox
 Kutzenko, Maximus A. (Agr) Kiev, Russia
 Larsen, Annetta (Pharm) Viborg
 Larsen, John R. (Com) Midland
 Latt, Mabel (Com) Castlewood
 Lawson, James (C E) Brookings
 LeFevre, Ethel (Com) Brookings
 Leighty, William (G S) Brookings
 Lewis, Alfred (Com) Arlington
 Lewis, Irma (Pharm) Mina
 Lewis, Wilfred (Pharm) Canton
 Leyden, Merle E. (Agr) Bryant
 Lien, Ruth (H E) Brookings
 Lindblom, Edna (H E) Canova
 Lindblom, Inez (G S) Canova
 Lindsay, Richard (G S) Brookings
 Lippert, Leo H. (E E) Timber Lake
 Locke, Walter J. (E E) Castlewood
 McCarthy, Arleen (Pharm) Timber Lake
 McKenna, Hurley (Pharm) Milbank
 McManamy, Linus (G S) Aberdeen
 McPherson, Esther (H E) Fort Pierre
 Mabie, Mildred (Com) Ponca, Neb.
 Martyn, Clyde (G S) Watertown
 Matson, Wilford (Pharm) Brookings
 Miles, Hall (G S) Brookings
 Minder, John W. (E E) Sisseton
 Moberg, Lyman (Com) Brookings
 Morgan, Ruth (HE) Langford
 Morton, William (E E) Brookings
 Murray, Bernard (Pharm) Parker
 Murray, Joe (Agr) Parker
 Nelson, Clarence (ME) Yankton
 Nelson, Elsie (GS) White Lake
 Newkirk, Clifton (Agr) Ravinia
 Nielsen, Irene (GS) Withee, Wis.
 Oleson, Calvin (CE) Lemmon
 Olson, Robert (Com) Brookings
 Owen, Ross (Agr) Fort Scott, Kan.
 Payne, Alma (Pharm) Emmett, Idaho
 Peden, Maurice (CE) Gary
 Person, Hjalmer (CE) Hitchcock
 Peterson, Clifford (CE) Doland
 Phoenix, Grezelda (GS) Hermosa
 Porter, Wilhelmina (GS) Fort Pierre
 Prescott, Verneil (HE) Tracy, Minn.
 Proctor, Dorothy (Com) Alexandria
 Puhr, Leo (Agr) Brookings
 Pultz, Leon (GS) Brookings
 Rasmusson, Joel C. (Pharm) Lead
 Reinecke, Vera (HE) Beulah, Wyoming
 Renshaw, Charles F. (Agr) Armour
 Riley, Louis (Pharm) Parker
 Risty, Karl T. (Agr) Corson
 Robb, Harlan E. (Agr) Belle Fourche
 Robbins, William (Com) Veblen
 Rohrbach, Glenn (GS) Brookings
 Rubert, Edna (HE) Forestburg
 Ryger, Irwin (Com) Brookings
 Schmitt, Verna (Pharm) Corsica
 Schultz, Philo (CE) Iroquois
 Schutte, Clarence (Agr) Aberdeen
 Sederstrom, Eleanor (GS) Arlington
 Seeman, Frederick A. (Agr) Brookings
 Serbousek, Emil (GS) Onida
 Severin, Clair (Pharm) Philip
 Shannon, Isabel (Pharm) Pierpont
 Sharon, Otto (Pharm) Kadoka
 Shook, Emily (HE) Gordon, Neb.
 Smith, Clifford (Pharm) Oldham
 Smith, Mrs. George (HE) Watertown
 Somers, Gladys (HE) Brookings
 Soule, William (Agr) Brookings
 Sour, Vera (GS) Castlewood
 Spitzer, Hazel (HE) Edgeley, N. D.
 Spooner, Meriel (HE) Brookings
 Squire, Ina (GS) Brookings
 Starr, Edna (GS) Brookings
 Stiles, George (CE) Gary
 Stitt, Lyle (Agr) Hitchcock
 Sundet, Wilfred (Com) Brookings
 Svoboda, Charles (CE) Cicero, Ill.
 Swenson, LeRoy (Com) Brookings
 Thomas, Jane (HE) Springfield
 Thornburg, Alvin (Agr) Ames, Iowa
 Toll, Estella (Com) Dupree
 Tunnicliff, Joe (Pharm) Alexandria
 Umback, Charles (Agr) Lemmon
 Urton, Lester (Pharm) Fulton
 Vandervelde, Celim (Phy) Big Stone City
 Van Ornum, Earle (CE) Doland
 Vessey, Joy (Spec) Brookings
 Vogelsang, Ella (Pharm) Albee
 Vought, Vivian (HE) Clear Lake
 Watson, Verne (CE) Philip
 Webster, Katherine (HE) Brookings
 Welch, Cecil (GS) Brookings
 Welch, Frank (GS) Madison
 Williams, Helen (Pharm) LeMars, Iowa
 Wilson, Allen (EE) Aberdeen
 Winter, Karl (Com) Hot Springs
 Wold, Eva (Spec) Brookings
 Wood, Leland (EE) Wessington Springs
 Woodbury, Bruce (EE) Gary
 Woodward, Herbert (GS) Hurley

SPECIALS

Anderson, Anna, Brookings
 Austin, Camilla, Hudson
 Ayer, Morace M., Brookings
 Backes, Charles, Brookings
 Benson, Mrs. Elmer, Rosholt
 Berke, Mrs. E. A., Elkton
 Cach, Anna, Scotland
 Chapman, Nellie Z., Brookings
 Cole, Olive M., Brookings
 Dougherty, Mrs. R. V., Webster
 Ensteness, Julia, Brookings
 Evans, Stella, Cambria, Minn.
 Fahey, G. J., Brookings
 Fry, Mrs. R. K., Brookings
 Griep, Mrs. Meta, Brookings
 Grinnells, Mrs. C. D., Brookings
 Gullette, C. C., Brookings
 Gullette, Mrs. C. C., Brookings
 Hahn, Bernice M., Sioux Falls
 Hall, W. Exerhard, Hetland
 Hansen, Phillip W., Brookings
 Harding, Mrs. E. B., Brookings
 Harding, Neva, Brookings
 Hubbard, Mrs. Evelyn T., Brookings
 Hynding, Sine, Brookings
 Jeffry, Mrs. T. H., Brookings
 Johnson, Mrs. S. W., Brookings

Johnson, Mrs. Blanche A., Brookings
 Jones, Mrs. Dorothy, Brookings
 Jordan, Mrs. R. B., Brookings
 Koenig, Verna M., Watertown
 Kohler, Mrs. H. L., Brookings
 Larson, Anna L., Hendricks, Minn.
 Lindsey, Alta R., Brookings
 Nielson, Anna, Withee, Wis.
 Norby, Mrs. Thomas, Brookings
 Olson, Clara, Howard
 Otterness, Ida C., Brookings
 Patty, Mrs. Gertrude, Brookings
 Pierce, Mrs. Earl J., Webster
 Ross, Esther, Loomis
 Salk, Mrs. Ella M., Elkton
 Schlender, Agnes, Bryant
 Simmons, Mrs. Sadie M., Brookings
 Stevens, Leila, Lake Benton, Minn.
 Stuvland, Adolph, White
 Sween, Olga, Brookings
 Thompson, Mrs. Clare, Ft. Dodge, Iowa
 Wendelken, Anne, Elkton
 West, Mrs. C. A., Brookings
 Whitehead, Ruth, Brookings
 Yule, Gertrude, Brookings
 Zimmermann, Mrs. Esther, Verdi, Minn.

UNCLASSIFIED

Anderson, Hilda, Bruce
 Baden, Olive, Brookings
 Benson, Reuben, Brookings
 Clement, Elizabeth, Volga
 Clement, Jorend, Volga
 Farlin, Mrs. Emma, Villisca, Iowa
 Givens, Howard, White
 Groves, Mrs. LaVearne, Brookings
 Helin, Genevieve, State Center, Iowa
 Johnson, Lorand, Brookings

Kotzea, Clara, Waubay
 McCurdy, Margaret M., Brookings
 Maesse, Sara, Brookings
 Peterson, Anna, Brookings
 Peterson, Ethel, Brookings
 Peterson, Mable, Brookings
 Ronne, Mrs. Emma, Gettysburg
 Schutjer, Lillie, White
 Zacek, Mrs. Edna, Brookings

PREPARATORY

FOURTH YEAR

Borst, Homer, Sioux Falls
 Carson, Charlotte, Bradley
 Coakley, Leo, Flandreau
 DeWitt, Ellsworth, Highmore
 Hetland, John, Montrose
 Kjenslee, Lloyd, Brookings
 Kugler, Wm., Lidgerwood, N. D.
 Kurtz, Theodore, Brookings

Lindland, Lloyd, Brandt
 Norman, Rose, Brookings
 Segers, Lunita, Davisboro, Georgia
 Shepherd, Clayton, Belvidere
 Sheppard, Don, Brookings
 Sheppard, Forrest, Brookings
 Steile, Carl L., Hilland
 Watkins, Vernon L. Sturgis

THIRD YEAR

Barclay, Clarence, Selby
 Boyer, Dean, Redfield
 Christianson, Wm. F., Watertown
 Garrett, J. Herman, Fruitdale
 Gunderson, Martha, Brookings
 Johnson, Lucile, Mansfield

Longman, Mabel, Brookings
 Savala, Eleanor, Lake Norden
 Smith, Lewis, R. Miller
 Solberg, Clarence, Brookings
 Soulis, James, Milbank
 Whitmer, Mable, Clark

SECOND YEAR

Bennett, Charles, Aurora
 Colline, Charles, Aurora
 Dalzell, John D., Dalzell
 Edwards, Charles H. Struble, Iowa
 Faust, Victor B., Parkston

Heinzen, Harry, Rockham
 Johnson, Mable, Sioux Falls
 Remialy, Naomi, Doland
 Schoenweather, Mildred, Brookings

SCHOOL OF AGRICULTURE FOURTH YEAR

Bell, Walter E., Brookings
Brown, Maybel E., Yankton
Bult, Samuel, Harrison
Butterfield, Ernest, Wessington Springs
Chester, Otto, Bruce
Christianson, Wm. F., Watertown
Copper, George R., Doland
Doud, Ralph E., Midland
Duff, Edna M., Brookings
Eidem, Samuel, Elk Point
Falkenhagen, Floyd, Agar
Fuller, Howard, Naples
Granner, Gertrude J., Estelline
Grieve, Lawrence, Wessington Springs
Gunderson, Rosella, Brookings
Hanson, F. Edwin, Vermillion
Iverson, Milton, Worthing
Jensen, Corliss, Farmingdale

King, Esther, Brookings
Linn, Glenn, Rockham
Linn, W. Day, Rockham
Lucke, Glenn G., Doland
Lund, Raymond F., Wessington
Merry, Robert, Dell Rapids
Monson, W. J., Reliance
Piper, Olie S., Carpenter
Reinecke, Emerald, Beulah, Wyo.
Ring, Gladys M., Henry
Schreiber, Arnold, Agar
Schwartz, Hilbert F., Canton
Scott, Maurice, Bruce
Sears, John, Kadoka
Sellers, Mary, Mt. Vernon
Stearns, George E., Canton
Ufford, Fred W., Vermillion
Wieting, George, Hitchcock

THIRD YEAR

Barber, E. Ward, Onida
Baxter, Eva B., Hazel
Baxter, Everett, Hazel
Baxter, Oliver, Hazel
Beatty, Wallace, Elrod
Bergland, Peter, Scotland
Bever, Neil, Agar
Brant, Charles, Sioux Falls
Briscoe, Harold, Gorman
Bue, Oscar, Grenville
Burbidge, Robert, Hazel
Burke, Francis, Faulkton
Cooper, Charles, Doland
Cowan, Joseph J., Webster
Crisman, Hazel I., Armour
Crisman, Owen, Armour
Cumming, Ross, Broadland
Doner, Howard M., Gorman
Duff, Orville, Brookings
Duryee, Elvie M., Webster
Erdman, Wayne L., Corsica
Evans, Morris, Brookings
Fairchild, Jasper, Elbon
Fred, Henry, Canova
Fred, Violet, Canova
Fuller, Mark A., Naples
Gulsvig, Melvin, Havana, N. Dak.
Gunderson, Alfred, Brookings

Gustafsen, Kenneth, Onida
Hansen, Ernest M., Beresford
Herreid, Ernest C., Summit
Jacobson, Emil, Sioux Falls
Jones, Lloyd L. W., Rowena
Killam, Arthur, Farmingdale
Lievan, Wayne M., Aurora
Longman, Mabel, Brookings
Lundin, Emma, Springfie'd
Mackay, Alexander C., Sioux Falls
Madsen, Neils C. A., Raymond
Manfull, Harry A., Gettysburg
Marvin, Lucille E., Brookings
Mueller, Noa J., Freeman
Mulder, Egge, Altamont
Parshall, Chas. J., Colome
Pastian, Albert, Herrick
Peterson, Peter, Jr., Lily
Pond, Paul, Hill City
Sloat, Phebe, Gettysburg
Stee, George, Florence
Steingrube, Henry, Volin
Steinhauser, Harold, Hitchcock
Stitt, Rhea, Hitchcock
Talsma, Martha, Springfield
Vanderplaats, Andrew, Fort Bennett
Weir, Rodney, Witten
Willi, Herbie B., Detroit, Mich.

SECOND YEAR

Apland, Will, Oldham
Bawdon, Robert R., Ree Heights
Belau, J. William, Miranda
Bischoff, Ralph, Huron
Brockmueller, Elias, Freeman
Brue, James, Centerville
Christensen, Samuel S., Brookings
Crane, Lyle L., Reliance
Crase, Dorlon, Brookings
Crisman, Calvin J., Armour
Dahlin, Alfred G., Sisseton
Daugaard, Clara, Dell Rapids
DeGraff, Andrew, Bushnell
DeJong, William, A., Utica
Edwards, Evan, Fairburn
Ellison, Lester, Vermillion
Fluharty, Ivan V., Ft. Pierre
Forby, George A., Onaka

Forby, George F., Onaka
Forbey, J. Harold, Onaka
Freitag, William C., Hitchcock
Gapen, Paul E., White River
Gillette, Francis, Armour
Griep, Rudolph, Brookings
Gunnarson, Roosevelt, Veblen
Hamlin, Wallace, Holabird
Hansen, Mirtie A., Freeman
Hesby, Edwin L., Arlington
Houseman, Ward E., White River
Jensen, Alvin E., Viborg
Jensen, Gladys A., Viborg
Johnson, Addie S., Grenville
Joy, Archie, Bunker
Kopland, Ilo, Brookings
MaComb, Florence, Brookings
Manfull, Frank L., Gettysburg

Moe, Oscar A., Sioux Falls
 Moen, Alvin R., New Effington
 Monson, Albert, Reliance
 Morgan, Edward, Kimball
 Nelson, Bennie, Dell Rapids
 Painter, Charles M., Colome
 Pedersen, Theodor, Brookings
 Quam, Paul, Elk Point
 Richard, Homer, Hitchcock
 Rieger, John, Gettysburg
 Ring, Eugene, Henry
 Romsdahl, Conrad, Lake Norden
 Ronell, Clarence, Burbank
 Sander, Albert, Redfield
 Scherber, Frank A., Waubay
 Schlim, Joe F., Howard

Schoepp, Helen M., Henry
 Schultz, Alice, Hetland
 Skretting, Anders, Clarkfield, Minn.
 Smith, Mark, Northville
 Steinlicht, Rudolph, Milbank
 Sueltz, Alfred, Groton
 Thoreson, Marlow H., Clark
 Thoreson, Olaf, Branden
 Vojta, John, Mound City
 Vojta, Joseph, Mound City
 Waddell, Charles M., Garden City
 Waddell, Katherine A., Garden City
 Welch, Clifford, Parkston
 Westergaard, Eben, Viborg
 Wimer, Harry, Frankfort

FIRST YEAR

Andersen, Laurence A., Aberdeen
 Anderson, George, Manchester
 Barton, Rex L., Colome
 Bell, Henry, Flandreau
 Bossen, Clarence L., Vienna
 Broz, Tillie, Wagner
 Bumgardner, Lester L., White Lake
 Calder, Lyman, Wetonka
 Carter, Oscar J., Menno
 Chief Eagle, Albert, Oglala
 Christensen, Lars A., Viborg
 Cornelius, Henry, Canton
 Cowan, Mildred, Webster
 Davis, Thomas, White
 Dockstader, William, Dell Rapids
 Donneaud, Donald W., Wewela
 Doyle, Thomas, Colman
 Eierman, Walter W., Doland
 Fagerland, George C., Langford
 Fish, George W., Platte
 Folvik, Arnold, Wakonda
 Garrett, J. Herman, Fruitdale
 Gunderson, Eva, Brookings
 Haase, Gustav, Parker
 Haase, Henry, Parker
 Harris, Inez, Miller
 Harris, Robert S., Miller
 Hartwell, Mark F., Owanka
 Helland, Carl, Lily
 Herrboldt, Albert, Hosmer
 Hesnard, George F., Hermosa
 Hieb, Edward, Reliance
 Hieb, John, Reliance
 Hiller, Raymond, Brookings
 Hladkly, William, Utica
 Johnson, Elmer, Renner

Johnson, Merle R., Folsom
 Jordan, Albert, Tilford
 Jorgensen, Chris, Viborg
 Kindt, Edward, Wagner
 Kuehl, Theodore, Yale
 Larson, Earl, Flandreau
 Lipsey, Harold, Brookings
 McConnell, Frank, Milbank
 MacKenzie, Clair, Brookings
 Maxwell, George M., Parkston
 Mitchell, Lorn, Hecla
 Molskness, Michael, Colman
 Musilek, Henry, Lake Andes
 Myers, Wendell, Salem
 Nelson, Reuben G., Langford
 Nevala, William, Buffalo
 Olson, Arnold, Brookings
 Olson, Olga, Brookings
 Otradovec, Charles, Sioux Falls
 Pierce, Merwyn, Bushnell
 Roed, Elvira, Colman
 Rollins, Lewis D., Springfield
 Runsafter, George, Cherry Creek
 Schulte, Zena, Bushnell
 Schultz, Theodore, Hetland
 Smith, Clarence, Kidder
 Smith, Harry, Faulkton
 Sorenson, Ella, Chester
 Sorenson, Viona, Chester
 Steingrube, Herbert H., Volin
 Svec, Charles, Huron
 Sylvius, James E., Newell
 Thayer, Errol M., Elk Point
 Westergaard, Robert, Viborg
 Wiswell, Ernest F., Fairburn
 Woodward, Mabel, Riverton, Wyo.
 Zacek, J. O., Newell

VOCATIONAL

Abbott, Harry S. (Agr) Sturgis
 Akkerman, Dick (AM) White
 Andersen, Laurence A. (Agr) Aberdeen
 Anderson, Oscar D. (AM) Summit
 Anderson, Otto (Agr) Beresford
 Anderson, Owen W. (Agr) Platte
 Aronson, Carl V. (AM) Stockholm
 Baden, Roscoe (Spec) Pierre
 Barber, Claude E. (Spec) Newell
 Barclay, Clarence J. (Prep) Selby
 Batinovich, Jerry S. (Agr) Lead
 Bauer, George H. (Agr) Lake City
 Beck, John J. (Agr) Brookings

Beighlie, Harry (Agr) Topeka, Kansas
 Bennett, Guy (Agr) Arlington
 Benson, Elmer (Spec) Vermillion
 Berg, Clifford (Fresh) Iola, Wis.
 Bergeson, John (Agr) Sansarc
 Blair, Terrace W. (Agr) Tilford
 Blake, James (Agr) Bradley
 Borstad, John (AM) Bruce
 Boyd, James H. (Agr) Sioux Falls
 Boyer, Joseph L. (Agr) Wadena, Minn.
 Brandl, Frank (Agr) Sioux Falls
 Brant, Charles L. (Agr) Sioux Falls
 Brown, David (Agr) Isabel

- Bryan, Burrell (Agr) Herrick
 Buffington, Harley (Spec) Hot Springs
 Carlson, Simon E. (AM) Conde
 Cederburg, Clarence (Agr) Wagner
 Chief Eagle, Albert M. (Agr) Oglala
 Christensen, Samuel S. (Agr) Brookings
 Clark, Luther B. (Spec) Brookings
 Clark, Warren W. (Agr) White
 Comstock, Earl N. (Cor) Miles City, Mont.
 Cornelius, Henry (Agr) Canton
 Crawford, Chas. P. (Agr) Roscoe
 Cressman, Edward J. (Agr) Herrick
 Curry, William J. (Jr) Elk Point
 Dahlin, Alfred G. (Agr) Sisseton
 DeGraff, Andrew (Agr) Bushnell
 Dempsey, Dewey (AM) Galena
 Dougherty, Reginald (Spec) Webster
 Doyle, Thomas M. (Agr) Colman
 Dworak, Walter T. (Agr) Madison
 Dybdahl, Arthur (Agr) Brookings
 Dybvig, Henry G. (Fresh) Colton
 Eberhard, Clyde (Agr) Herrick
 Edwards, Evan (Agr) Fairburn
 Eierman, Walter W. (Spec) Doland
 Erdmann, George H. (Agr) Newark
 Evans, Morris (Agr) Houghton
 Everson, Alfred (Agr) Corsica
 Fallon, Clarence (AM) Slayton, Minn.
 Farrar, Earl R. (Soph) Britton
 Flakoll, Berthold (Agr) Bristol
 Florreich, Geo. H. (Agr) Grand Rapids, Minn.
 Fluaharty, Ivan V. (Agr) Fort Pierre
 Foley, Peter F. (Agr) Crocker
 Frank, William (Agr) Aberdeen
 Franzke, Clifford (Spec) Pukwana
 Friis, Arthur (Agr) Tyler, Minn.
 From, Carl August (Agr) Summit
 Frost, Alfred R. (AM) Burke
 Gamble, H. Dale (AM) Brookings
 Gapen, Paul E. (Agr) White River
 Gascoigne, Ivan L. (Spec) Broadland
 Gilbert, Paul (Grad) Rochester, Minn.
 Greguson, Helmer (Fresh) Canton
 Griep, Rudolph (Agr) Glad Valley
 Grotewold, Wm. H. (Agr) Larchwood, Ia.
 Groves, Armour (AM) Brookings
 Groves, William (Agr) Freeman
 Gustafson, Kenneth E. (Agr) Onida
 Hafstad, Luther T. (Spec) New Effington
 Harms, Frank (Agr) Brookings
 Hawley, Errol (Soph) Brookings
 Hedemark, Peter (AM) Brookings
 Hegarty, Joseph (Spec) Parker
 Heim, Corbett C. (Agr) Brookings
 Helland, Carl B. (Agr) Lily
 Henderson, John (AM) Elkton
 Henry, Lloyd M. (Soph) Volga
 Hiller, Raymond (Agr) Brookings
 Hoch, Alfred A. (Fresh) Elkton
 Holm, George (Jr) Pierre
 Hoyt, Myron A. (Fresh) Brookings
 Iorns, Bennett F. (Agr) Morristown
 Jelle, Richard M. (AM) Garretson
 Jennings, Albert M. (Jr) Sioux Falls
 Jepperson, Carl C. (AM) Waubay
 Johnson, Art W. (Jr) Neenah, Wis.
 Johnson, Seth A. (Spec) Arlington
 Johnson, Victor E. (Agr) Rosholt
 Johnson, Walter H. (Agr) Vermillion
 Jordan, Richard B. (Spec) Brookings
 Kass, Frank J. (Spec) Tracy, Minn.
 Kennard, Elmer (Soph) Brookings
 Kent, Donald (Spec) Yankton
 Kibby, Wm. (Agr) Aberdeen
 Knock, Herman (Agr) Davis
 Krumrei, F. W. (Agr) Isabel
 Lavin, Thomas H. (Agr) Brookings
 LaPoint, Oren (AM) Mosinee, Wis.
 Lawson, James (Fresh) Brookings
 Lee, Herbert H. (Agr) Aberdeen
 Lerret, Anker (Soph) Brookings
 Lindquist, Elmer (Spec) Webster
 Logerwell, Martin R. (Spec) St. Charles
 Long, Cliff Rodney (Spec) Marmarth, N. I
 Lothrop, Grover (Spec) Aberdeen
 McCarty, Albert I. (Soph) Cavour
 McClemons, Alexander (Agr) Aurora
 McConnell, Frank D. (Agr) Milbank
 McGuane, Michael (Agr) Letcher
 McHenry, Beth C. (AM) Gillette, Wyoming
 Mackay, Alexander (Agr) Brookings
 Madsen, Niels C. (Agr) Raymond
 Mahoney, Thomas B. (Agr) Sioux Falls
 Matheny, Robert (Spec) Brookings
 Mathews, Mueron (Agr) Tracy, Minn.
 Minnich, Francis M. (Jr) Scotland
 Moe, Albert Oscar (Agr) Sioux Falls
 Monfore, Howland (Soph) Springfield
 Morgan, Edward A. (Agr) Kimball
 Morgan, Robert W. (Agr) Lennox
 Musilek, Henry (Agr) Lake Andes
 Nelson, Arthur (AM) Worthington
 Nelson, Clynard E. (AM) Viborg
 Nelson, Julius (Agr) Oldham
 Nevala, William (Agr) Buffalo
 Ogaard, Olaf (AM) Waubay
 Olson, Jacob (Agr) Pollock
 Orvis, C. F. (Jr) Brookings
 Otradovec, Chas. (Agr) Brookings
 Pastian, Albert G. (Agr) Herrick
 Pedersen, Theodor (Agr) Brookings
 Perlenfein, Gustave (AM) Bonesteel
 Peterson, Magnus (Agr) Pierre
 Phillips, Herbert (Cor) Veta
 Phillips, Rowland (Spec) Philip
 Pierce, Earl J. (Spec) Webster
 Pittenger, Wm. H. (Jr) Brookings
 Pool, Walter K. (Agr) Valley, Wash.
 Prentice, Ernest (AM) Brookings
 Prunty, Glenn G. (Jr) Hartford
 Reagan, John (Agr) Ivanell, Mont.
 Ree, Ed. J. (Agr) Parmelee
 Renshaw, Charles F. (Fresh) Armour
 Rieger, John (Agr) Gettysburg
 Robb, Harlon E. (Fresh) Belle Fourche
 Rollins, Lewis (Agr) Springfield
 Romsdahl, Conrad (Agr) Lake Norden
 Roso, Elias (Agr) Bradley
 Roush, Joe R. (Spec) Draper
 Runsafter, Geo. J. (Agr) Cherry Creek
 Sager, Charles E. (Spec) Custer
 Scherber, Frank A. (Agr) Waubay
 Schlilm, Joe F. (Agr) Howard
 Schmur, George W. (Agr) Rockham
 Schooler, Harry N. (Jr) Cooper
 Schuneman, Darrell W. (Spec) Brookings
 Seoville, Albert H. (Spec) Forman, N. D.
 Severson, Edwin G. (Soph) Colton
 Skretting, Anders (Agr) Clarkfield, Minn.
 Slattery, Wm. H. (Spec) Springfield
 Smith, Clarence (Agr) Kidder
 Smith, Frank W. (Spec) Dewey
 Smith, George C. (Soph) Watertown
 Smith, Harry J. (Agr) Faulkton
 Snoek, Budd (Agr) Brookings
 Sorenson, James R. (Seph) Springfield

Steinlicht, Rudolph (Agr) Milbank
 Stone, George E. (Spec) Sioux Falls
 Strobele, John (Spec) Ipswich
 Sulceberger, Earl (Agr) Wood
 Sullivan, Frederic (Soph) Florence
 Sutton, Jacob S. (Agr) Brookings
 Svec, Charles (Agr) Huron
 Swenson, Andrew P. (Agr) Brookings
 Sylvis, James E. (Agr) Newell
 Synhorst, Richard (Agr) Pipestone, Minn.
 Syverson, Marcus (Agr) Sherman
 Thayer, Errol M. (Agr) Elk Point

Thompson, Clare R. (Spec) Fort Dodge, Ia
 Thompson, Everett E. (A. M.) Brookings
 Thoreson, Olaf (Agr) Brandon
 Tobin, Michael E. (Spec) Brookings
 Trager, John H. (A. M.) Brookings
 Vance, Russell W. (Spec) Fort Bennett
 Vanderplaats, Andrew (Agr) Fort Bennett
 Weir, Rodney P. (Agr) Witten
 Winder, Merrick (Agr) Newark
 Wiswell, Ernest F. (Agr) Fairburn
 Yoakum, Robert R. (A. M.) Ardore
 Zacek, Joseph O. (Agr) Brookings

TRACTOR AND AUTO MECHANICS

Akkerman, Dick, White
 Anderson, Chris E., Viborg
 Anderson, Oscar D., Summit
 Aronson, Carl V., Stockholm
 Beukama, Sam, Bemis
 Bishman, Walter, Brookings
 Borstad, John, Bruce
 Carlsson, Simon E., Conde
 Conkling, William, Lake Preston
 Fallon, Clarence, Slayton, Minn.
 Gamble, Harvey Dale, Brookings
 Girtan, Clifford, Brookings
 Grove, Armour, Brookings
 Gunderson, Arther, Lake Preston
 Hultman, Leonard C., St. Paul, Minn.
 Hanson, Clare, Winfred
 Hedemark, Peter, Brookings
 Henderson, John, Elkton
 Hieb, Edward, Reliance
 Hieb, John, Reliance
 Hild, Charles, Clough
 Hudson, Frank, Brookings
 Hurley, Julius P., Custer
 Jelle, Richard M., Garretson
 Jepperson, Carl C., Waubay
 Jones, John, Lake Preston
 Jorgensen, Chris, Viborg
 Kennedy, Alfred, Kennebec

Kiunke, C. E., Plankinton
 Kiunke, Paul, Parkston
 LaPoint, Oren, Mosinee, Wis.
 Larson, Nels, Brandt
 Laude, Harvey, Brookings
 Longman, Ray, Brookings
 McHenry, Beth C., Gillette, Wyoming
 Markham, Clarence, Mentor
 Nelson, Arthur, Worthington
 Nelson, Clynard E., Viborg
 Ogaard, Olaf, Waubay
 Perlenfein, Gustave, Bonesteel
 Peterson, Lloyd, Bison
 Prentice, Ernest, Brookings
 Sather, Lloyd, Beresford
 Schuurman, William, Tyndall
 Slocum, Harold, Brookings
 Sutton, Jacob S., Brookings
 Swenson, Clarence, Irene
 Thompson, Carl, Timber Lake
 Thompson, Everett, Brookings
 Thompson, Glenn, Summit
 Trager, John H., Brookings
 Whitney, Clarence, Brookings
 Wilcox, Vance, Aberdeen
 Willson, Karl L., Brookings
 Yoakum, Robert, Ardmore

CREAMERY SHORT COURSE

Connelly, James, Elkton
 Gunderson, Merle, Lake Preston
 Harriss, Richard, Watertown
 Harvey, Gilbert, Sioux Falls
 Holmgren, Edwin, Pillager, Minn.
 Linstrom, Victor, Vale
 McKay, Wm. M., Garden City

Matthews, Vernon, Madison
 Mickelson, LeRoy, Canton
 Parsons, Lester, Pillager, Minn.
 Peterson, Carl, Brookings
 Schlegel, Armour, Corsica
 Silvester, Carl, Elkton

PRINTING

Aylesworth, Carrol W., Valparaiso, Ind.
 Blakeslee, Charles, Brookings
 Carr, Robert J., Stratford
 Clark, Luther, Brookings
 Clark, Warren W., White
 Crowe, C. Merlin, Osakis, Minn.
 Edwards, W. Kenneth, Bruce
 Gascoigne, Ivan L., Broadland
 Greener, Dorothy, Faulkton
 Hafstad, Luther T., New Effington
 Hannah, Myrle, Blanchard, Iowa
 Heber, Walter, Vienna
 Jackson, Nina, Kimball
 Jeglum, Chester, Toronto
 Keith, Mark, Brookings

Klaiss, Frank, Kankakee, Ill.
 Knudson, Charles, Balaton, Minn.
 Leighty, William, Brookings
 Mercure, Lee, Lake Benton, Minn.
 Murray, Clay, Davenport, Iowa
 Newman, Neil, Fort Pierre
 Roush, Ella, Brookings
 Sager, Charles, Custer
 Schulte, Zena, Bushnell
 Slocum, Lester, Glenham
 Tolagson, Earl, Brookings
 Tompkins, Lawrence R., Brookings
 Winegar, Esten, Sioux Falls
 Wray, Ansel, Laurens, Iowa

SUMMER SESSION

1921

Allison, Winifred, Brookings
 Anderson, Ida, Vilas
 Anderson, Laurence, Aberdeen
 Anderson, Oscar D., Summit
 Atkinson, Ray, Brookings
 Atkinson, Ruth, Brookings
 Austin, Guy, Brookings
 Bailey, Grace, Brookings
 Baldrige, Bernadine, Brookings
 Banker, Ethel, Brookings
 Barber, Claude, Newell
 Barber, Paul, Brookings
 Barber, Winifred, Newell
 Batinovich, Jerry S., Lead
 Bauer, George, Lake City
 Bedessem, Ruth, Brookings
 Beighlie, Harry, Topeka, Kansas
 Bemeis, Clifton S., Brookings
 Bennett, Charles, Aurora
 Bennett, Guy E., Arlington
 Benson, Elmer, Vermillion
 Berg, Clifford, Iola, Wis.
 Bergeson, John, Sansare
 Bjur, Emil, Ellendale, N. Dak.
 Blair, Terrace, Tilford
 Blakely, Winnifred, Brookings
 Bohl, Vera, Brookings
 Borchardt, Elmer, Bellingham, Minn.
 Borstad, John, Bruce
 Brant, Charles, Sioux Falls
 Brightwell, Lenora, Brookings
 Bucholtz, Maudie, Elkton
 Burr, W. H., Brookings
 Cach, Anna, Scotland
 Caldwell, Jessie, Brookings
 Carlisle, Martin, Brookings
 Carlson, Simon, Conde
 Casto, James, Wellsville, Kansas
 Chamley, Mary, Watertown
 Chase, Elizabeth, Brookings
 Christensen, Samuel, McLaughlin
 Christianson, Ruth, Volga
 Christofferson, Vivian, Brookings
 Christopherson, Viola, Brookings
 Clark, Luther, Sioux Falls
 Cole, Freda Morrison, Philip
 Conner, Gertrude, Artesian
 Cotton, Ruby, Arlington
 Cunningham, Pearl, Aurora
 Cutler, Jesse C., Brookings
 Davis, Cora, Estelline
 DeGraff, Andrew, Bushnell
 Delker, S. F., Oldham
 Dempsey, Dewey, Galena
 Doner, Annie, Brookings
 Doner, Harold D., Brookings
 Doner, J. C., Brookings
 Dokken, Edna, Toronto
 Donahue, Craig, Ethan
 Donoghue, Paul, Wessington Springs
 Donahue, Paul, Wessington Springs
 Dowden, Milton, Cedar Falls, Iowa
 Doyle, Thomas, Colman
 Dybdahl, Lillian, Brookings
 Dybdahl, Otto, Brookings
 Edwards, Evan, Fairburn
 Eggen, Stella, Vienna
 Emly, A. J., Brookings
 Erie, Frances, Brookings
 Evans, Morris, Houghton
 Fallon, Clarence, Brookings
 Farrar, Earl L., Britton
 Fasbender, Gertrude, Estelline
 Fetter, Ester, Tracy, Minn.
 Foley, Peter, Crocker
 Franzke, Clifford, Pukwana
 Forsee, Zeta, Brookings
 Friis, Arthur, Tyler, Minn.
 From, Carl August, Summit
 Gamble, Harvey, Brookings
 Gilbert, Paul, Rochester, Minn.
 Gilbertson, Mary, Brookings
 Greening, Ernest, Milbank
 Greguson, Helmer, Canton
 Groves, Armour, Tripp
 Gullick, Kenneth, Brookings
 Gunn, Mrs. Michael, Brookings
 Gustafson, Kenneth, Onida
 Hage, Mrs. Anna C., Toronto
 Hafstad, Luther T., New Effington
 Haines, Augustus L., Mitchell
 Hammond, Alice, Brookings
 Hammond, Mabel, Brookings
 Hansen, Phillip W., Brookings
 Hanson, Hazel, Brookings
 Harming, Helen, Brookings
 Hartwick, A. L., Brookings
 Hatlestad, Herbert, Estelline
 Hawley, Errol Ray, Sioux Falls
 Haynes, Nelle, Brandt
 Hedemark, Peter, Brookings
 Heim, Corbett C., Brookings
 Hendrickson, Bertha, Elkton
 Hetland, John, Montrose
 Hoffmann, Anna, Vienna
 Hogstad, Anton, Jr., Brookings
 Hoime, Neva, Sherman
 Holm, George A., Pierre
 Hoy, Dale, Brookings
 Hoy, Marguerite, Brookings
 Hoyt, Myron, Rapid City
 Hubbard, Marion, Brookings
 Hume, Arthur, Brookings
 Huseby, Nellie, Minneapolis, Minn.
 Hutton, Helma, Brookings
 Hyde, Elsie, Brookings
 Hyde, G. H., Hudson
 Ingalls, Maxine, Elmare, Minn.
 Inlagen, Mary Ann, Gary
 Innes, Clayton, Brookings
 Iverson, Selma, Brookings
 James, Leona, Brookings
 Jarman, Ruby, Brookings
 Jelle, Richard, Garretson
 Jennings, Albert, Sioux Falls
 Jensen, Olga, Renner
 Jepperson, Carl, Waubay
 Johnson, Esther, Lowry
 Johnson, Garland, Brookings
 Johnson, Mabel, Brookings
 Johnson, Nola, Aurora
 Johnston, Helen, Quinn
 Jordan, Richard, Marshall, Minn.
 Keith, Anna, Brookings
 Keith, Florence, Brookings
 Kennard, Elmer, Brookings
 Kibby, William, Aberdeen
 Kjenslee, Lloyd, Brookings
 Knadle, Mary, Vienna
 Kopland, David, Brookings
 Kugler, Wm., Lidgerwood, N. Dak.
 Kumlien, Ruth, Ft. Atkinson, Wis.
 Kumlien, W. F., Brookings
 Laddusaw, Blanche, Brookings

Larson, Harold, Brookings
 Larson, Kenneth, Brookings
 Lawson, James, Brookings
 Lee, Vera, Huron
 Lerret, Anker, Brookings
 Liemohn, Joe, Estelline
 Lien, Jeanette, Brookings
 Lindblom, Edna, Canova
 Lindblom, Inez, Canova
 Lindquist, Elmer, Webster
 Love, Mildred, LeMars, Iowa
 McCain, T. P., Aricola, Ill.
 McGuane, Michael, Letcher
 McIntosh, A. L., Oglala
 Mackay, Alexander, Sioux Falls
 Madsen, Niels C., Raymond
 Mahoney, Thomas B., Sioux Falls
 Mann, Berniece, Brookings
 Martin, Lester, Brookings
 Matheny, Robert, Brookings
 Mathews, Gladys, Westport, Conn.
 Mathews, Hermine, Brookings
 Mathews, Hubert, Westport, Conn.
 Mathews, Zoa, Brookings
 Maynard, Mildred, LeMars, Iowa
 Mensch, Katherine, Freeman
 Merriman, Charles, Bowdle
 Metzger, Valera, Brookings
 Metzger, Virginia, Brookings
 Miles, Hall, Brookings
 Mitchell, Esther, Brookings
 Moe, Albert, Sioux Falls
 Moeller, Hildegard, Scotland
 Monfore, Howland S., Springfield
 Morgan, Edward A., Kimball
 Morgan, Robert W., Lennox
 Musilek, Henry, Lake Andes
 Munger, Gertrude, Carthage
 Nelson, Alma, Brookings
 Nelson, Clarine, Hetland
 Nelson, Clynard, Viborg
 Nelson, Ineta, Dell Rapids
 Nelson, Lillian V., Hetland
 Nesseth, Gladys, Volga
 Nevala, William, Buffalo
 Nielson, Anne, Withee, Wis.
 Nord, Alfred, Milbank
 Nordlund, Carl, DeSmet
 Norman, Rose, Brookings
 Nutt, Mildred, Flandreau
 Nyman, Darwin, Brookings
 Oakland, Agnes, Decorah, Iowa
 Ogaard, Olaf, Waubay
 Olson, Carrie R., Volga
 Olson, Clarence, Brookings
 Olson, Thelma, Canby, Minn.
 Orvis, Clarkson F., Brookings
 Otradovec, Charles, Sioux Falls
 Oyloe, Sarah, Brookings
 Pastian, Albert, Herrick
 Paulson, Joseph, Brookings
 Pedersen, Theodor, Brookings
 Pederson, Agnes, Dell Rapids
 Phillips, Gladys, Aurora
 Pierce, Earl J., Webster
 Pope, Myrl, Wessington
 Prather, Ellsworth, Brookings
 Prather, Glenn, Brookings
 Prentice, Ernest, Brookings
 Prunty, Glenn S., Hartford
 Pryor, Blanche M., Aurora
 Fuhr, Leo, Brookings
 Raak, Bently, Brookings
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 Rieger, John, Gettysburg
 Richison, Ruby, Brookings
 Riley, Edna M., Brookings
 Robbins, George, Bushnell
 Rodman, Bertha, Hitchcock
 Rohrback, Glenn, Brookings
 Ross, William, Eagle Lake, Minn.
 Rose, Myrtle, Clear Lake
 Roso, Elias, Bradley
 Roush, Joe R., Draper
 Rottluff, Karl, Sioux Falls
 Sacre, Carl W., Brookings
 Sacre, Laura, Brookings
 Sager, Charles, Custer
 Sshoenwether, Mildred, Brookings
 Schooler, Harry N., Brookings
 Schutte, Clarence, Aberdeen
 Sedgwick, Jessie, Onida
 Seivert, Lola May, Elkton
 Severson, Edwin, Colton
 Severson, Leonora, Volga
 Sharp, Walter, Brookings
 Simon, Arthor, Brookings
 Singasaas, Emma, Astoria
 Skretting, Anders, Clarkfield, Minn.
 Slattey, William, Belle Fourche
 Snoek, Budd, Brookings
 Sloat, May, Gettysburg
 Sloat, Ora, Gettysburg
 Smith, Ruth, Henry
 Solberg, Clarence, Brookings
 Solberg, Elizabeth, Brookings
 Sorenson, Viola, Tyler, Minn.
 Sorenson, Marian, Trent
 Stearns, Mae, Brookings
 Stocker, Lula, Gettysburg
 Strobele, John, Ipswich
 Sullivan, Frederic, Florence
 Sutton, Jacob, Brookings
 Svoboda, Charles, Cicero, Illinois
 Telkamp, Mina, Brookings
 Thompson, Eva, Flandreau
 Thompson, Everett, E., Brookings
 Thoreson, Olaf, Brandon
 Tift, Ila, Brookings
 Titmarsh, Ruth V., Brookings
 Towne, Lois, Minneapolis, Minn.
 Trager, John H., Keldron
 Turner, Gwendolyn, Brookings
 Urton, Harold, Fulton
 Valentine, Julia, White
 Vanderplaats, Andrew, Fort Bennett
 Van Stryland, Bertha, Bemis
 Voss, Edward, Doland
 Waldron, Rena, Arlington
 Waldron, Ruth, Arlington
 Walker, John, Brookings
 Walker, Ruthe, Brookings
 Wedgwood, Jessie, Trent
 Weir, Rodney, Witten
 Welty, Earl, Brookings
 White, M. C., Brookings
 Wick, Jeanette, Brookings
 Wickre, Inez, Renner
 Williams, Sallie R., Quiney, Ill.
 Wold, Ruth, Brookings
 Yule, Gertrude, Brookings
 Zacek, Joseph, Newell
 Zabell, Ruth, Estelline
 Ziegler, Hortense, Brookings

CORRESPONDENCE

Comstock, Earl N. (Agr.) Miles City, Mont.
 Davis, R. L. (Agr.) Spencer, Iowa
 Hackett, A. E. (Agr.) Tabor
 Hoffman, Viola (Agr.) Revillo
 Hughes, Mrs. Phelan (Agr.) Orton

Josephine, Sister M. (H.E.) Grenville
 Patricia, Sister M. (H.E.) Jefferson
 Philips, Herbert (Agr.) Veta
 Reed, Verna M. (H.E.) Gettysburg

SUMMARY

1921-22

	Men	Women	Total	Grand Total
Collegiate				
Post Graduate	24	3	27	
Seniors	24	17	41	
Juniors	76	36	112	
Sophomores	80	41	121	
Freshmen	144	78	222	
Specials	7	46	53	
Total Collegiate	355	221	576	576
Unclassified	4	15	19	19
Preparatory				
Fourth Year	13	5	16	
Third Year	7	5	12	
Second Year	6	3	9	
Total Preparatory	26	11	37	37
School of Agriculture				
Fourth Year	29	7	36	
Third Year	48	8	56	
Second Year	58	9	67	
First Year	63	10	73	
Total School of Agriculture	198	34	232	232
Vocational Students	196		196	196
Tractor and Auto Mechanics	55		55	55
Creamery	13		13	13
Printing	25	4	29	29
Summer Session	154	136	290	290
Correspondence	4	5	9	9
Grand Totals	1030	426	1456	1456
Names Repeated	119	1	120	120
Net Totals	911	425	1336	1336

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1922/23

SOUTH DAKOTA STATE COLLEGE
of AGRICULTURE and
MECHANIC ARTS

Annual Catalog
1922-23

With Announcements for
1923-24



Brookings, South Dakota

The College Bulletin



THE South Dakota State College Bulletin is published quarterly by authority of the Regents of Education. The Bulletin contains information in detail relative to the entrance requirements of the different courses of instruction, the schedules of study, lists of instructors and officers of administration, equipment, organizations, publications, funds, students' expenses, scholarships, etc.

The institution includes the following departments of instruction: Agricultural Journalism, Agronomy, Animal Husbandry, Art, Botany and Plant Diseases, Chemistry, Civil Engineering, Commerce, Dairy Husbandry, Education, Electrical Engineering, English, Farm Economics, Foreign Languages, History and Political Science, Home Economics, Horticulture and Forestry, Manual Arts, Mathematics, Mechanical Engineering, Military Science, Music, Pharmacy, Physical Education, Physics, Poultry Husbandry, Printing, Public Speaking, Veterinary Medicine, Zoology and Entomology, the School of Agriculture and the Tractor and Auto-Mechanics School.

In addition to the instructional work the Agricultural Experiment Station and the Agricultural Extension Division are maintained at the College.

The College bulletins are sent free, postage paid on request. The request should indicate the department concerning which information is desired.

For bulletins and other information address the Registrar, State College, Brookings, South Dakota.

Volume XV

April, 1923

Number 4

SOUTH DAKOTA STATE COLLEGE
OF AGRICULTURE AND
MECHANIC ARTS

Annual Catalog
1922-23

With Announcements for
1923-24

Published Quarterly by
THE SOUTH DAKOTA STATE COLLEGE
Brookings, South Dakota

Entered as second-class matter August 10, 1908, at the postoffice at
Brookings, South Dakota

CALENDAR

June 1923								January 1924							
S	M	T	W	T	F	S		S	M	T	W	T	F	S	
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17	18	19	20	21	22	23		20	21	22	23	24	25	26	
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July 1923								February 1924							
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September 1923								April 1924							
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30															

October 1923							May 1924							
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November 1923										June 1924									
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December 1923								July 1924								
							1					1	2	3	4	5
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16	17	18	19	20	21	22		20	21	22	23	24	25	26		
23	24	25	26	27	28	29		27	28	29	30	31				
30	31															

Announcements

1923

SUMMER TERM

June 6, Wednesday—First Summer Term begins.

July 13, Friday—First Summer Term ends.

July 16, Monday—Second Summer Term begins.

August 24, Friday—Second Summer Term ends.

1923

FALL TERM

September 17, 18, Monday, Tuesday—Registration for Fall Term.

September 19, Wednesday—Class work begins at 8 a. m.

October 20, Saturday—Hobo Day.

October 22, Monday—Enrollment in the School of Agriculture.

November 29, Thursday—Thanksgiving Day—a holiday.

December 19, Wednesday—Work of Fall Term closes at 4:15 p. m.

1924

WINTER TERM

January 2, Wednesday—Registration for Winter Term.

January 3, Thursday—Work of Winter Term begins at 8 a. m.

March 11, Tuesday—Commencement exercises of the School of Agriculture at 10:30 a. m.

March 12, Wednesday—Work of Winter Term and School of Agriculture closes at 4:15 p. m.

March 13, 14, 15, Thursday, Friday, Saturday—Spring Recess.

1924

SPRING TERM

March 17, 18, Monday, Tuesday—Registration for Spring Term.

March 19, Wednesday—Work of Spring Term begins at 8 a. m.

May 30, Friday—Memorial Day—a holiday.

June 1, Sunday—Baccalaureate Services at 10:30 a. m..

June 2, Monday—Thirty-Seventh Annual Commencement at 10:30 a. m.

June 5, Thursday—Spring Term closes at 4:15 p. m.

REGENTS OF EDUCATION

Hon. T. W. Dwight	- - - - -	Sioux Falls
Term expires January 1, 1927		
Hon. August Frieberg	- - - - -	Beresford
Term expires January 1, 1925		
Hon. J. O. Johnson	- - - - -	Watertown
Term expires January 1, 1927		
Hon. Alvin Waggoner	- - - - -	Philip
Term expires January 1, 1927		
Robert Dailey	- - - - -	Flandreau
Term expires January 1, 1925		

Officers of the Board

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Helen Gamble	- - - - -	Secretary
Hon. W. S. O'Brien (State Treasurer)	- -	Treasurer

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Hon. T. W. Dwight, Chairman

Hon. August Frieberg

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President

GEORGE LINCOLN BROWN, Ph. D.
Vice President; Dean of the Faculty

HUBERT BERTON MATHEWS, M. S.
Vice Dean of the Faculty

¹CHRISTIAN LARSEN, M. S. A.
Dean of Agriculture

²NELLIE McCOWN, B. S.
Dean of Women

³GRACE BROOKE, B. S.
Preceptress

R. A. LARSON
Secretary of the College

JAMES W. WILSON, M. S. A., LL. D.
Director of the Experiment Station

NIELS E. HANSEN, M. S., Sc. D.
Vice Director of the Experiment Station

W. F. KUMLIEN, B. A., M. S.
Director of Agricultural Extension

ALBERT NASH HUME, M. S., Ph. D.
Superintendent of Substations; Director of State Soil Survey

DAVID B. DONER
Registrar

C. B. HOWARD, Captain, Infantry U. S. Army
Commandant, Reserve Officers' Training Corps

¹Beginning January 1, 1923.

²Given leave of absence, November 1, 1922.

³Beginning November 1, 1922.

DIVISION OF INSTRUCTION

The number after each name indicates the beginning of service in the College.

WILLIS E. JOHNSON, 1919, President.

Ph. B., M. A., Illinois Wesleyan University; B. A., M. A., Ph. D., University of Minnesota; LL. D., Dakota Wesleyan University.

GEORGE LINCOLN BROWN, 1897, Vice President; Dean of the Faculty; Professor of Mathematics.

B. S., M. S., University of Missouri; Ph. D., University of Chicago.

HUBERT BERTON MATHEWS, 1892, Vice Dean of the Faculty; Professor of Physics.

B. S., M. S., South Dakota State College.

CHRISTIAN LARSEN 1917, Dean of Agriculture.

B. S. A., M. S. A., Iowa State College.

FREEMAN ANDREWS, 1918, Instructor in Forging and Acetylene Welding.

RICHARD N. AXFORD, 1920, Instructor in the School of Agriculture. A. B., University of Wisconsin.

CHARLES BACKES, 1921, Assistant Professor of Military Science and Tactics.

First Lieutenant, Infantry, U. S. Army.

W. P. BEARD, 1920, Assistant in Agricultural Education.

B. S., Iowa State College.

M. R. BENEDICT, 1919, Professor of Farm Economics, Divisions of Instruction and Extension Service.

B. S., University of Wisconsin.

¹GEORGE C. BIGGAR, 1921, Assistant in Agronomy.

B. S., M. S., South Dakota State College.

²WILFRED S. BINNEWIES, 1923, Assistant Professor of Education.

B. S., DePauw University; M. S., University of Chicago.

EDWARD R. BINNEWIES, 1913, Associate Professor of Chemistry.

B. S., M. S., South Dakota State College.

JOHN R. BOLLINGER, 1922, Assistant in Dairy Husbandry.

B. S., University of Wisconsin.

JOHN A. BONELL, 1910, Assistant Professor of Mechanical Engineering. Graduate Stout Institute

G. W. BOTTERON, 1922, Assistant Professor of Chemistry.

B. A., Defiance College; M. S., University of Iowa.

¹Resigned December 31, 1922.

²During Winter Term, 1922-23.

- BYRON BRIGGS BRACKETT, 1909, Professor of Electrical Engineering.
A. B., A. M., Syracuse University; Ph. D., Johns Hopkins University.
- ELEANOR BROECKER, 1923, College Nurse.
R. N., Asbury Hospital (Minneapolis).
- ALFRED L. BUSHEY, 1919, Assistant Professor of Agronomy; Assistant in Agronomy, Experiment Station.
B. S., South Dakota State College; M. S., Purdue University.
- ADA B. CALDWELL, 1899, Professor of Art.
- CARL CHRISTENSEN, 1906, Professor of Music.
- ALICE COONROD, 1922, Instructor in Vocational Subjects.
- LYNN COPELAND, 1922, Assistant in Dairy Husbandry.
B. S. A., Kansas Agricultural College.
- ANNE COUGHLAN, 1920, Instructor in Violin.
Mus. B., American Conservatory of Music.
- FRANK DENNY, 1922, Instructor in Military Science and Tactics.
Sergeant, U. S. Army.
- B. A. DUNBAR, 1911, Professor of Chemistry; Chemist, Experiment Station.
A. B., A. M., Ohio Wesleyan University.
- FRED A. ENKE, 1921, Assistant in Mathematics and Physical Education.
B. S., University of Minnesota.
- E. O. ERICKSON, 1922, Instructor in Printing.
- ARTHUR T. EVANS, 1920, Associate Professor of Agronomy; Associate Agronomist and Crop Pathologist, Experiment Station.
A. B., University of Illinois; M. A., University of Colorado; Ph. D. University of Chicago.
- DONALD C. FARLEY, 1920, Instructor in Chemistry.
B. S., Hamline University.
- ROBERT BLACKWOOD FORSEE, 1901, Instructor in the School of Agriculture.
Principal of Pedagogy, Western College (Missouri).
- MATTHEW FOWLDS, 1913, Instructor in Agronomy; Assistant in Crops, Experiment Station.
B. S., South Dakota State College.
- J. RAY FRIDLEY, 1921, Supply Officer R. O. T. C.
B. S., South Dakota State College; First Lieutenant, Infantry, O. R. C.
- URSULA T. GERNON, 1920, Instructor in Art.
Graduate Art Institute, Chicago.

- GEORGE GILBERTSON, 1914, Assistant Professor of Entomology; Assistant State Entomologist; Assistant Entomologist, Experiment Station.
B. S., M. S., South Dakota State College.
- RAY M. GILCREAST, 1922, Instructor in Dairy Husbandry and Apiculture.
B. S., Iowa State College.
- CHESNEY O. GOTTSCHALK, 1920, Assistant Professor of Vocational Education in charge of Industrial Education.
Graduate Stout Institute.
- C.-D. GRINNELLS, 1920, Associate Professor of Animal Husbandry.
D. V. M., Cornell University; B. S., University of Minnesota.
- CAMERON CHARLES GULLETTE, 1921, Assistant Professor of Modern Languages.
Mus. B., A. B., Ohio University.
- W. E. HALL, 1922, Instructor in School of Agriculture.
- NIELS EBBESEN HANSEN, 1895, Professor of Horticulture and Forestry; Vice Director and Horticulturist of the Experiment Station.
B. S., M. S., Iowa State College; Sc. D., University of South Dakota.
- ALBERT SPENCER HARDING, 1897, Professor of History and Political Science.
B. S., South Dakota State College; A. M., University of Nebraska.
- E. B. HARDING, 1921, Instructor in Linotype Operation.
- EDMOND E. HARTNETT, 1920, Assistant Professor of Industrial Art.
Pd. B., Central Missouri State Teachers' College; B. S., M. A., Columbia University.
- FELIX HELMREICH, 1922, Instructor in Animal Husbandry.
B. S., Iowa State College.
- ANTON HOGSTAD, Jr., 1917, Associate Professor of Pharmacy.
P. C., Philadelphia College of Pharmacy; B. S., M. S., South Dakota State College.
- C. B. HOWARD, 1922, Professor of Military Science and Tactics.
Captain, Infantry, U. S. A.
- HOWARD H. HOY, 1899, Associate Professor of Physics and Mechanical Engineering.
B. S., M. S., South Dakota State College.
- ALBERT NASH HUME, 1911, Professor of Agronomy; Superintendent of Substations; Agronomist, Experiment Station; Director of State Soil Survey.
B. S. A., M. S., Purdue University; Ph. D., Goettingen University.

- LYNN D. HUTTON, 1920, State Leader of Barberry Eradication.
B. S., South Dakota State College.
(Detailed by U. S. Department of Agriculture.)
- JOSEPH GLADDEN HUTTON, 1911, Associate Professor of Agronomy;
Associate Agronomist, Experiment Station; Assistant Director of
State Soil Survey.
B. S., University of Chicago; M. S., University of Illinois.
- ARTHUR M. JOHNSON, 1919, Instructor in Music.
- SILAS W. JOHNSON, 1919, Assistant Professor of Education.
B. A., M. A., University of Iowa.
- PURLEY L. KEENE, 1921, Instructor in Horticulture.
B. S., University of Minnesota.
- NELLIE J. KENDALL, 1912, Instructor in English and Physical Training.
B. S., South Dakota State College.
- PAUL W. KIESER, 1920, Professor of Journalism; Agricultural Editor.
- H. L. KOHLER, 1921, Assistant Professor of Music, in charge of Voice.
B. A., Bluffton College; B. Mus., American Conservatory of Music.
- ARTHUR HENRY KUHLMAN, 1918, Associate Professor of Animal
Husbandry; Associate Animal Husbandman, Experiment Station;
Superintendent of College Farms.
B. S., M. S., University of Wisconsin.
- LOUISE LOCKERBY LEATON, 1916, Assistant Professor of Home
Economics.
B. S., Illinois Wesleyan University.
- FLOYD LeBLANC, 1922, Assistant in Pharmacy and Chemistry.
Ph. G., South Dakota State College.
- MABEL S. LEWIS, 1922, Instructor in School of Agriculture.
- ALTA R. LINDSEY, 1921, Assistant Librarian.
A. B., Huron College.
- TALITHA E. LINE, 1922, Assistant Professor of English.
A. B., M. A., University of Indiana.
- CHARLES CLINTON LIPP, 1913, Professor of Veterinary Medicine;
Consulting Veterinarian, Experiment Station; Director of the
Animal Health Laboratory.
D. V. M., Ohio State University.
- LAURA J. McARTHUR, 1920, Assistant Professor of Home Economics.
B. S., University of Minnesota.
- GEORGE W. McCARTY, 1920, Associate Professor of English.
B. A., University of Indiana; M. A., Columbia University.
- ADA McCORDIC, 1918, Assistant Professor of Mathematics.
A. B., Zion College; A. M., University of Wisconsin.

GERTRUDE McKNIGHT, 1915, Instructor in Vocational Subjects.

JOSEPH A. MACHLIS, 1919, Assistant in Agronomy in connection with the State Soil Survey.

B. S., University of Wisconsin.

HELEN L. MAGILL, 1922, Instructor in English.

A. B., University of Kansas; M. A., University of Chicago.

LAWRENCE C. MAUGH, 1921, Instructor in Civil Engineering.

B. S., University of Michigan.

I. L. MILLER, 1920, Associate Professor of Mathematics.

A. B., A. M., University of Indiana.

SHERMAN W. MORRISON, 1922, Instructor in Pharmacy.

Ph. G., Ph. C., University of Iowa.

JANE MULLENBACH, 1920, Associate Professor of English; Acting Head of the department.

A. B., University of Michigan; A. M., University of Chicago.

THOMAS M. OLSON, 1920, Associate Professor of Dairy Husbandry; Assistant Dairy Husbandman, Experiment Station.

B. S. A., University of Wisconsin; M. S. A., Iowa State College.

MARGARET OPPERUD, 1921, Instructor in the School of Agriculture.

EARL C. O'ROKE, 1920, Assistant Professor of Zoology.

A. B., M. A., University of Kansas.

²S. J. PEARCE, 1922, Instructor in Dairy Manufactures.

B. S., University of Nebraska; M. S., Iowa State College.

ENOCH J. PETERSON, Instructor in Poultry Husbandry.

W. ALBERT PETERSON, 1912, Associate Professor of Music.

Mus. Bac., American Conservatory of Music.

¹MARCIA PROSSER PERRY, 1920, College Nurse.

R. N., Bishop Clarkson Hospital, (Omaha).

E. J. PETRY, 1920, Professor of Botany and Plant Pathology.

B. S., Ohio State University; M. S., Purdue University.

EDITH PIERSON, 1919, Professor of Home Economics.

B. S., Lewis Institute, M. S., University of Minnesota.

GREGOR B. PIRSCH, 1922, Coordinator, Vocational Rehabilitation,

B. S., M. S., University of Minnesota.

(Detailed by the U. S. Veteran's Bureau.)

WILLIAM HOWARD POWERS, 1905, Librarian; Associate Professor of English.

A. B., Miami University; A. M., Harvard University.

¹Resigned January 1, 1923.

²Resigned March, 1, 1923.

- ELLSWORTH O. PRATHER, 1919, Professor of Commercial Science.
A. B., Austin College; M. Accts., Gem City Business College.
- KNOWLTON T. REDFIELD, 1922, Assistant in Veterinary Science and Bacteriology.
D. V. M., Ohio State University.
- HAZEL E. RINK, 1920, Instructor in Piano.
Studied at Cincinnati Conservatory of Music.
- ERVIN ROSS, 1921, Instructor in Military Science and Tactics.
Sergeant, U. S. Army.
- W. H. SAATHOFF, 1922, Instructor in Commercial Science.
A. B., Colorado State Teachers College.
- JAMES SALISBURY, 1922, Assistant in Dairy Husbandry.
B. S., South Dakota State College.
- EARL R. SERLES, 1915, Professor of Pharmacy.
Ph. G., B. S., M. S., South Dakota State College.
- HARRY C. SEVERIN, 1909, Professor of Zoology and Entomology; Entomologist, Experiment Station; State Entomologist.
A. B., University of Wisconsin; A. M., Ohio State University.
- LAURA J. SEXAUER, 1922, Instructor in Home Economics.
B. S., South Dakota State College.
- EARL E. SHOEN, 1920, Instructor in Forging and Acetylene Welding.
- DAVID L. SNADER, 1919, Professor of Civil Engineering.
C. E., M. S., Ohio Northern University.
- BYRNE SMITH, 1922, Assistant in Music.
- HALVOR C. SOLBERG, 1891, Professor of Mechanical and Steam Engineering.
B. S., South Dakota State College; B. M. E., M. E., Purdue University.
- LENA SPITZER, 1921, Assistant in Home Economics.
B. S., South Dakota State College.
- GEORGE LEIGH STEVENSON, 1919, Professor of Poultry Husbandry.
B. S., Colgate University; B. S. A., Cornell University.
- MARY A. STITES, 1922, Instructor in History.
A. B., Hamline University; A. M., University of Pennsylvania.
- ALFRED STUMLEY, 1921, Instructor in the School of Agriculture.
B. S., South Dakota State College.
- J. B. TAYLOR, 1920, Instructor in Veterinary Science and Bacteriology.
V. M. D., University of Pennsylvania.

- SETH THORNTON, 1920, Superintendent of the School of Printing;
Instructor in the Printing Trades.
- LAWRENCE R. TOMPKINS, 1922, Assistant in Printing.
- MAUDE UMMEL, 1920, Instructor in Commercial Science.
B. S., State Teachers' College (Maryville, Missouri).
- VERNE V. VARNEY, 1921, Y. M. C. A. Secretary.
B. S., University of Wisconsin.
- RUSH F. WAGNER, 1922, Assistant in Farm Economics.
B. S., M. S., Iowa State College.
- GRACE E. WASSON, 1920, Instructor in Home Economics.
Ph. B., University of Chicago.
- CLARENCE FLOY WELLS, 1919, Instructor in Chemistry; Assistant
Chemist, Experiment Station.
A. B., M. S., West Virginia University.
- C. A. WEST, 1919, Professor of Physical Education.
B. S., Coe College.
- J. A. WILLIAMS, 1921, Professor of Education; Principal of the Second-
ary School of Agriculture; Director of the Summer School.
A. B., A. M., University of Indiana.
- HAZEL M. WILLIS, 1919, Associate Professor of Art.
B. S., Columbia University.
- JAMES WILBUR WILSON, 1902, Professor of Animal Husbandry; Di-
rector and Animal Husbandman of the Experiment Station.
B. S. A., M. S. A., Iowa State College; LL. D., University of South
Dakota.
- CLINTON R. WISEMAN, 1918, Assistant Professor of Vocational Edu-
cation, in charge of Agricultural Education.
B. S., University of Wisconsin.
- THOMAS H. WRIGHT, Jr., 1917, Associate Professor of Dairy Hus-
bandry; Assistant Dairy Husbandman and Bacteriologist, Experi-
ment Station.
B. S., Iowa State College.
- GERTRUDE S. YOUNG, 1907, Assistant Professor of History and
English.
A. B., University of Wisconsin.
- MILDRED E. YULE, 1922, Assistant to the Agricultural Editor.
B. Lit., Pulitzer School of Journalism, Columbia University.

SPECIAL SUMMER SCHOOL INSTRUCTORS

- DAISY BUTLER, Instructor in Primary Methods.
A. A. COULSON, Instructor in Common School Branches.
B. A., Yankton College.
S. F. DELKER, Instructor in Mathematics.
B. S., South Dakota State College.
CARROL GARDNER GREEN, Instructor in Sociology.
B. S., South Dakota State College; M. A., Columbia University.
ELMER J. HOLSTAD, Instructor in Shorthand and Typewriting.
HAROLD HOOVER, Instructor in Physics.
B. S., South Dakota State College.
G. HARA HYDE
B. S., South Dakota State College.
HARRIET S. STEERE, Instructor in Primary Methods.
A. B., University of Wisconsin.
EDWARD T. VOSS, Instructor in Common School Branches.
B. S., South Dakota State College.
M. C. WHITE, Instructor in Science.
B. S., South Dakota State College.

STUDENT ASSISTANTS

- LUTHER BREEN, Pharmacy.
ARTHUR CRAM, Manual Training.
HORACE CRAUN, Mathematics.
HAROLD DONER, Agronomy.
HELMER GREGUSON, Horticulture.
WILLIAM GUEVARA, Spanish.
AUGUSTUS L. HAINES, Agronomy.
JOHN MOORE, Botany.
RUBY OLSON, Spanish.
RUBY SOLBERG, Botany.
ALMA THOMAS, Assistant Librarian.
HAZEL THOMSON, Physics.

**AGRICULTURAL EXPERIMENT STATION STAFF
AND ASSISTANTS**

- WILLIS E. JOHNSON, Ph. D., LL. D., President.
CHRISTIAN LARSEN, 1907, Dean of Agriculture.
B. S. A., M. S. A., Iowa State College.
JAMES WILBUR WILSON, 1902, Director and Animal Husbandman;
Professor of Animal Husbandry, Instructional Division.
B. S. A., M. S. A., Iowa State College; LL. D., University of
South Dakota.

- NIELS E. HANSEN, 1895, Vice Director and Horticulturist; Professor of Horticulture and Forestry, Instructional Division.
B. S., M. S., Iowa State College; Sc. D., University of South Dakota.
- ALFRED L. BUSHEY, 1919, Assistant and Analyst in Agronomy; Assistant Professor of Agronomy, Instructional Division.
B. S., South Dakota State College; M. S., Purdue University.
- B. A. DUNBAR, 1911, Consulting Chemist, Experiment Station; Professor of Chemistry, Instructional Division.
A. B., M. A., Ohio Wesleyan University.
- ARTHUR T. EVANS, 1920, Associate Agronomist and Crop Pathologist; Associate Professor of Agronomy, Instructional Division.
A. B., University of Illinois; M. A., University of Colorado; Ph. D., University of Chicago.
- MATTHEW FOWLDS, 1913, Assistant in Crops; Assistant in Agronomy, Instructional Division.
B. S., South Dakota State College.
- GEORGE GILBERTSON, 1914, Assistant Entomologist; Assistant Professor of Entomology, Instructional Division; Assistant State Entomologist.
B. S., M. S., South Dakota State College.
- ALBERT NASH HUME, 1911, Agronomist and Superintendent of Substations; Professor of Agronomy, Instructional Division.
B. S. A., M. S., Purdue University; Ph. D., Goettingen University.
- JOSEPH GLADDEN HUTTON, 1911, Associate Agronomist; Associate Professor of Agronomy, Instructional Division.
B. S., University of Chicago; M. S., University of Illinois.
- PAUL W. KIESER, 1920, Agricultural Editor; Professor of Journalism, Instructional Division; Editor of Bulletins for College, Experiment Station and Agricultural Extension Division.
- ARTHUR H. KUHLMAN, 1918, Associate Animal Husbandman; Superintendent of College Farms; Associate Professor of Animal Husbandry, Instructional Division.
B. S., M. S., University of Wisconsin.
- CHARLES C. LIPP, 1913, Consulting Veterinarian, Experiment Station; Professor of Veterinary Medicine, Instructional Division; Director of the Animal Health Laboratory.
D. V. M., Ohio State University.
- THOMAS M. OLSON, 1920, Assistant Dairy Husbandman; Associate Professor of Dairy Husbandry, Instructional Division.
B. S. A., University of Wisconsin; M. S. A., Iowa State College.

- H. C. SEVERIN, 1909, Entomologist; Professor of Entomology and Nature Study, Instructional Division; State Entomologist.
A. B., University of Wisconsin; M. A., Ohio State University.
- CLARENCE F. WELLS, 1919, Assistant Chemist; Instructor in Chemistry, Instructional Division.
A. B., M. S., West Virginia University.
- THOMAS H. WRIGHT, Jr., 1917, Assistant Dairy Husbandman and Dairy Bacteriologist; Associate Professor of Dairy Husbandry, Instructional Division.
B. S., Iowa State College.
-

AGRICULTURAL EXTENSION SERVICE

- WILLIS E. JOHNSON, 1919.
Ph. D., LL. D., President.
- CHRISTIAN LARSEN, 1907, Dean of Agriculture.
B. S. A., M. S. A., Iowa State College.
- W. F. KUMLIEN, 1917, Director of Extension.
B. A., Lawrence College; M. S., South Dakota State College.
- PAUL P. BANKER, 1920, Extension Specialist in Livestock.
B. S., University of Wisconsin.
- M. R. BENEDICT, 1919, Professor of Farm Economics, Divisions of Extension and Instruction.
B. S., University of Wisconsin.
- A. J. DEXTER, 1917, Assistant County Extension Agent Leader.
B. S., University of Wisconsin.
- MARY A. DOLVE, 1921, Extension Specialist in Foods.
B. S., North Dakota Agricultural College.
- A. L. FORD, 1920, Extension Specialist in Entomology.
B. S., M. S., Kansas Agricultural College.
- E. W. HALL, 1914, County Extension Agent Leader.
B. S., University of Wisconsin.
- LYNN HUTTON, 1919, State Leader of Barberry Eradication.
B. S., South Dakota State College.
(Detailed by the U. S. Department of Agriculture).
- R. E. JOHNSTON, 1916, Extension Specialist in Agronomy.
B. S., South Dakota State College.

- H. M. JONES, 1920, Extension Specialist in Dairying.
B. S., South Dakota State College.
- MAY KIETHLINE, 1918, Specialist, Extension Methods for Boys and Girls.
- P. W. KIESER, 1920, Agricultural Editor; Professor of Journalism, Instructional Division; Editor of bulletins for College, Experiment Station and Extension Service.
- AZALEA LINFIELD, 1921, Extension Specialist in Clothing.
B. S., Montana Agricultural College; M. A., Columbia University.
- H. D. McCULLOUGH, 1918, Farm Management Demonstrator.
B. S., North Dakota Agricultural College; B. A., Cornell College.
- R. L. PATTY, 1916, Extension Specialist in Agricultural Engineering.
B. Di., Iowa State Teachers' College; B. S. in Agricultural Engineering, Iowa State College.
- P. J. SCARBRO, 1918, Specialist in charge of Extension Methods for Boys and Girls.
A. B., Highland Park College; B. Di., Iowa State Teachers' College.
- C. L. STARR, 1920, Assistant County Extension Agent Leader.
- CLARA M. SUTTER, 1921, Extension Specialist in Poultry.
- GEORGE H. VALENTINE, 1920, Specialist, Extension Methods for Boys and Girls.
B. S., South Dakota State College.
- G. S. WEAVER, 1917, Extension Specialist in Animal Diseases.
V. S., Ohio State University.
- RUSH F. WAGNER, 1922, Assistant Professor Farm Economics.
B. S., M. S., Iowa State College.
(Detailed by State Department of Agriculture).
- SUSAN Z. WILDER, 1921, Specialist, Extension Methods for Women.
B. S., B. A., University of Minnesota; M. S., University of Chicago.
- C. G. WORSHAM, 1922, Associate Farm Economics.
B. S., M. S., University of Minnesota.
(Detailed by the State Department of Agriculture).

HOME EXTENSION AGENTS

County	Agent	Address
Clark Codington Deuel Hamlin	} Laura L. Jones	Watertown
Beadle Faulk Hand Spink		
Brookings Kingsbury Lake Moody		
Grant	Charlotte E. Biester	Milbank
Minnehaha	Eva Bickel	Sioux Falls
Brown	Edith A. Sloan	Aberdeen

SOUTH DAKOTA COUNTY EXTENSION AGENTS

COUNTY	NAME	ADDRESS
BEADLE	Lewallen, Dick	Huron
BON HOMME	Monroe, M. O.	Tyndall
BROWN	Boardman, W. C.	Aberdeen
BUTTE	Ellison, A. D.	Belle Fourche
CAMPBELL and McPHERSON	Broich, W. F.	Eureka
CLARK	Basart, V. D.	Clark
CLAY	Griggs, W. D.	Vermillion
CODINGTON	Ausman, L. V.	Watertown
CORSON	Osborne, O. M.	McIntosh
DAY	Gunning, John A.	Webster
DEUEL	Parish, W. G.	Clear Lake
DEWEY	Hermstad, Oscar	Timber Lake
DOUGLAS	Kennard, George B.	Armour
EDMUNDS	Laney, J. Carl	Ipswich
FALL RIVER	Sloan, Sam L.	Hot Springs
FAULK	Gilbert, Chas. J.	Faulton
GRANT	Smith, R. E.	Milbank

HAAKON	Mills, Oscar	Philip
HAMLIN	Tompkins, A. W.	Hayti
HAND	Aicher, E. H.	Miller
HUGHES	Nelson, N. F.	Pierre
JACKSON	Valentine, Vey J.	Kadoka
JONES	Gamble, W. P.	Murdo
KINGSBURY	Jones, D. C.	DeSmet
LAKE	Morrison, J. D.	Madison
LAWRENCE	Hall, Evan W.	Spearfish
LINCOLN	Palm, A. W.	Canton
LYMAN	Saylor, Chas. D.	Reliance
MARSHALL	Browning, J. M.	Britton
McCOOK	Winright, George L.	Salem
MEADE	Carrington, W. H.	Sturgis
	Collins, Floyd	Faith
MELLETTE	Rudolph, E. G.	White River
MINER	Swanson, R. O.	Howard
MINNEHAHA	Hamilton, J. H.	Sioux Falls
PENNINGTON	Ladd, L. L.	Rapid City
PERKINS	Eberle, A. M.	Bison
POTTER	Hansen, George S.	Gettysburg
ROBERTS	Buchanan, R. R.	Sisseton
SPINK	Smith, Percy T.	Redfield
STANLEY	Davis, Deane G.	Ft. Pierre
SULLY	Woodruff, L. M.	Onida
TRIPP	Lange, F. E.	Winner
UNION	Putnam, H. O.	Elk Point
WALWORTH	Lippert, L. C.	Selby
YANKTON	Brander, J. M.	Yankton

DAIRY EXPERT AND ASSISTANTS

A. P. RYGER, 1909, State Dairy Expert.

RUDOLPH B. BUCHOLZ, 1920, Assistant Dairy Expert.
B. S., South Dakota State College.

TERRENCE A. MEEHAN, 1918, Assistant Dairy Expert.

*JOHN THOMPSON, 1920, Assistant Dairy Expert.

†JOHN N. MELIN, 1922, Assistant Dairy Expert.

HAZEL J. COLEMAN, Secretary to the Dairy Expert.

*Resigned April 1, 1922.

†Since May 17, 1922.

OTHER OFFICERS AND EMPLOYEES

ANNA ANDERSON, Secretary to the Director of Extension.

ANNA CACH, Manager of the College Book Store.

DANIEL L. BEALS, Assistant Secretary of the College.

BARTON CAROTHERS, Clerk of Supplies, Chemistry Department.

PHILIP W. HANSEN, Secretary to the Director of the Experiment Station.

P. P. HOFF, Foreman of the Dairy Farm.

JOSEPH HOFFMAN, Foreman Eureka Substation.

FRANK HUSSEY, Foreman Vivian Substation.

ANNA JESPERSON, Assistant Registrar.

A. T. LARSON, College Engineer.

ARNE LARSON, Foreman of the Horticultural Farm.

ALTA LINDSEY, Assistant Librarian.

LAWRENCE McGARRY, Foreman of the Agricultural Farm.

EARL MINIER, Post Master College Station.

GEORGE E. PURDY, Custodian of the Buildings and Grounds.

ESTHER M. ROSS, Secretary to the President.

H. M. SANDERSON, Foreman Cottonwood Substation.

S. W. SUSSEX, Foreman Highmore Substation.

L. W. SUTTON, Foreman of the Agronomy Farm.

W. B. WOOD, College Florist.

HISTORICAL SKETCH

Establishment.—An act of the Territorial Legislature, approved February 21, 1881, provided that “an Agricultural College for the territory of Dakota be established at Brookings, * * * provided that a tract of land of not less than eighty acres be secured and donated to the territory of Dakota.”

The Legislature of 1883 provided for the erection of the first building. This building, now known as the Central Building, was opened for use September 24, 1884.

The Enabling Act admitting the State of South Dakota, approved February 22, 1899, provided that 120,000 acres of land be granted for the use and support of the Agricultural College, as provided in the acts of Congress making donations of lands for such purpose. The acts of Congress here referred to are primarily, the act of July 2, 1862, known as the Morrill Act, providing that 30,000 acres of public land for each representative in Congress be given to each state towards “the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanics arts.”

By the Enabling Act of 1889 Congress granted to South Dakota for the Agricultural College 40,000 additional acres, in lieu of a grant that had been made to new states in 1841. Thus the total land grant for the Agricultural College was 160,000 acres.

In the Morrill Act of 1862, such colleges were spoken of as “Colleges of Agriculture and Mechanic Arts.” In order that the name might nearly conform to the object for which the College was established, the Legislature of 1907 changed the name from “The Agricultural College of South Dakota” to “the State College of Agriculture and Mechanic Arts.”

The *Experiment Station was organized in 1887, under the Hatch Act of Congress, which provided for the establishment of agricultural experiment stations in connection with

*See the index for references to additional information concerning the Agricultural Experiment Station and the Extension Division.

agricultural colleges. These stations were established for the purpose of conducting experiments and research work in connection with all branches of the agricultural industries of the United States, due regard being paid to the various conditions and needs of the respective states. It is also their object to aid in diffusing among the people useful and practical information on all subjects connected with agriculture. The South Dakota station conducts its investigations chiefly along the following lines: Live stock, dairying, soils, field experiments with crops, greenhouse work, trees and small fruits, injurious insects, and chemistry of plant growth and foods.

The Division of Agricultural Extension was established to carry to the people of the state results of the work of the College, and also the approved methods as practiced by the most successful farmers in the different localities. From its earliest history the College has sent out members of its staff to help the people of the state by addressing meetings, acting as judges at fairs and for agricultural clubs, and in various other ways. The College, however, had no money available to conduct such work in a systematic way until 1914, when the Smith-Lever Act was passed by Congress providing \$10,000 annually to each state beginning with July 1, 1914 to be used for agricultural extension work by the State Colleges of Agriculture in cooperation with the United States Department of Agriculture. The act also provides that beginning with July 1, 1915, additional amounts which increase from year to year are to be given to the different states upon the condition that the states appropriate equal funds for the extension work.

Sources of Income.—A joint resolution passed by the Legislature of 1890 accepted the lands granted in the enabling act. These lands were not at once assigned. The Commissioner of Public Lands reported that 64, 658 acres had been selected.

All have since been selected; very few have been sold. A small amount is received yearly as rental. The first income recorded was \$1,197.71, September 1, 1896. No school lands may be sold for less than ten dollars an acre. When all the land is sold it will yield an endowment of approximately three million dollars.

The Morrill Act passed by Congress in 1890 provides a yearly appropriation for "the more complete endowment and support of colleges for the benefit of agriculture and mechanic arts." Under this act the College now receives from the general government the sum of \$25,000 per annum.

An act making appropriation for the Department of Agriculture, approved by Congress March 4, 1907, provides for the future endowment and support of these colleges. The bill, which was introduced by Senator Knute Nelson, of Minnesota, stipulates that the expenditure of the fund shall be governed in all respects by the provisions of the Morrill Act, and also that a portion of the money may be used to provide for the training of instructors in agriculture and mechanic arts. This act made an appropriation of \$5,000 for the year 1907-1908, which increased \$5,000 each year until it reached \$25,000 per annum. The College, therefore, receives \$50,000 annually from the National Government for instructional purposes.

The College also receives aid from the State, biennial appropriations being made by the Legislature for maintenance and buildings.

The Hatch Act provides that the agricultural experiment stations should each receive \$15,000 annually from the National Government. This amount has been increased by the provisions of the Adams Act of 1906, so that the Experiment Station now receives \$30,000 a year for maintenance.

Under the Smith-Lever Act, the College receives \$10,000 annually from the National Government for extension work. Under the same act during the present year the College will receive \$31,862.24 additional, on the condition that an equal amount is provided by the State to be used with the national fund. The State Legislature appropriated \$49,000 for the County Supervision Fund in addition to the amount appropriated as the Smith-Lever offset.

LOCATION, BUILDINGS AND EQUIPMENT

The Location.—The College is located in Brookings, which has a population of about four thousand people. The city is situated on the Central Dakota Division of the Chicago & North Western Railway, the Watertown branch making connection with the main line at this point.

Few educational institutions are more advantageously located. The campus, lying at the northeast corner of the City of Brookings, is approached by wide paved streets, which are shaded with well grown trees. The lawns of the city are well kept and abound in ornamental plants and shrubs. The houses are nearly all modern in equipment, and many of them are new and most attractive in appearance. City conveniences are provided mostly from municipal plants. Brookings is a city of homes and its atmosphere is favorable to the establishment and continuance of good habits.

The College Buildings and Grounds.—The college campus is ornamented with choice and tasteful varieties of trees and shrubs and laid out with necessary walks and drives. Adjoining on the rear are the horticultural gardens, and to the north, northeast, and northwest are the college farms.

The oldest building on the campus, called the Central Building, was erected in 1884. This and the old North Building are given over to general class-room and laboratory purposes.

The other old building has been remodeled and now houses the Extension Division.

The Agricultural and Administration Building provides executive offices, an auditorium, laboratories, class rooms and offices for the various agricultural departments and the department of home economics.

The Physics-Engineering Building is occupied by the physics and the engineering departments with their various class rooms, laboratories and shops.

The Plant Breeding Building, together with the large Greenhouse, furnishes room for the work that is being conducted by the departments of horticulture and entomology.

The Stock Judging Pavilion has a fine amphitheater into which stock used for judging may be brought, thus affording an unobstructed view for every student.

The Chemistry Building, a two-story structure, is occupied by the class rooms and laboratories of this department.

The Creamery is a two-story building which furnishes quarters for the department of dairy husbandry and a creamery which is conducted on a commercial scale.

The old Gymnasium, a two-story building, is used for the work in farm mechanics. This includes instruction in autos, tractors and farm machinery.

The new Armory provides offices, bath rooms, lockers, dressing rooms, target practice room, etc., for the departments of military science and physical education. The main floor is 100 feet by 165 feet, free from supports, providing ample room for military drill and for athletics. A tract of land near the armory has been fitted up for outdoor exercises and sports.

Wenona Hall and Wecota Hall are built adjoining each other, forming a splendid brick dormitory for young ladies, on a site just across the street from the campus. They will accommodate about 180 women.

The Vocational Men's Dormitory which has recently been completed will accommodate about 160 men. This building was erected for the benefit of men who have been disabled while in the United States Army or Navy, and are being sent to the College for training by the United States Veterans' Bureau. (See following pages for details concerning dormitories.)

The central heating and electric light plant occupies a brick structure in the rear of the campus. The buildings are all heated by steam and lighted by electricity generated in this plant.

Near the campus on the adjoining college farm are located the agricultural and dairy barns, together with a number of smaller buildings which are used for agricultural purposes.

The Farm and Horticultural Gardens.—The college farms include seven hundred acres, about sixty of which are used by the Agricultural Experiment Station as an experimental

farm. Here the field experiments with field crops, seed germination and soil preparation are conducted, and the students may witness and actually participate in this scientific work. The remainder of the farm is used as a model stock and dairy farm under the direction of the professor of animal husbandry. Practical work in experiments involving the best farming practices for this region is given the students.

The horticultural gardens comprise about fifty acres adjoining the campus. Here and in the greenhouse a large amount of work in fruit propagation and plant experimentation is being carried on.

The Laboratories, Shops and Museums.—Well fitted laboratories and shops have been provided in all those departments where their use is made necessary by modern educational methods. The value of illustrative materials has been recognized, and numerous departments have made large collections and museums. The equipment of the various departments is described in connection with the description of their work.

The Library and Reading Room.—The library, occupying rooms on the first floor of the Central Building, contains over 24,000 bound volumes and about 8,000 pamphlets. The institution is a repository for the government and contains sets of government publications dated from 1886. Many of the more valuable sets have been extended to an earlier date. Care has been exercised in the selection of books in order that each department may have proper reference books at the disposal of the students. The books are arranged according to the Dewey system of classification and are completely catalogued in the card catalogue. The library also receives the cards from the government cataloguing the bulletins of the experiment stations and the publications of the United States Department of Agriculture. The files of many standard scientific and literary periodicals are kept bound. The reading room is abundantly supplied with current periodicals and newspapers. The library is open nearly all the time, day and evening, and is at the disposal of students for the purpose of study and reading. Someone is in charge at all times to give help and information to those using the library.

The Postal Facilities.—The College furnishes first-class postal facilities. Station A, Brookings, South Dakota, is a Federal Postoffice, located in a college building. Mail is delivered at convenient times during the day, making it unnecessary for students to go to the city postoffice.

ORGANIZATION AND GOVERNMENT

The Board of Regents.—By an act of the Legislature approved March 10, 1897, provision was made for the appointment of the Regents of Education, who have charge of all the educational institutions which are maintained either wholly or in part by the State. The terms of office of the regents are each six years and expire at different times, so that the board is a continuous body. Appointments to the board are made by the Governor, with the approval of the Senate, "of persons of probity and wisdom from among the best and best known citizens, residents of different portions of the State, none of whom shall reside in the counties in which any of the state educational institutions are located, who shall be designated as the Regents of Education."

Among the powers and duties of the regents as defined by law some important ones are, to employ members of the different faculties and other agents, to determine the proper number of teachers in said faculties, also their compensation and terms of employment, to establish departments, to settle upon the courses of study, to determine the rules to be enacted for the government of students, to decide upon text books to be used, to fix tuition fees, to guard against unwise duplication of departments, to confer degrees, to control the Agricultural Experiment Station, and to promote education among the farmers by providing for institutes; in fact, to make all regulations as to the executive and instructional functions of the educational institutions of the State. The regents govern the College largely through a regents' committee.

The Faculty.—The faculty, consisting of the president and professors, all of whom are elected by the regents, deter-

mines in large part the general policy of the College. The professors are heads of the different departments of instruction which they represent and are responsible to the president, who is in charge of all matters of administration. The president in turn is responsible to the regents for the whole work of the institution. The president appoints, at the beginning of each college year, certain faculty committees which take up such work as may be assigned them by the president and the faculty.

In the government of the College the faculty relies chiefly upon the sense of duty of the students. The student is expected to pursue his studies with diligence, to attend classes regularly and maintain good behavior at all times. Students are not only under the direct supervision of the faculty while on the campus, but are responsible for their conduct wherever they may be.

In order that the work of the College may be rendered as efficient as possible and all relations made harmonious, a set of regulations, chiefly governing matters of classification, has been adopted by the faculty. No set rules are expected to cover every condition that arises, and all students should recognize the importance of co-operation with the faculty in their efforts to make college life helpful to the student body as a whole.

STUDENT ACTIVITIES

Faculty Control.—While the students are allowed wide latitude in carrying on affairs which vitally concern themselves, such as athletic, literary, musical, social and other activities, the faculty retains an advisory interest in all such matters, and has the right at any time to pass reasonable regulations for the welfare of the College.

The Student Association.—The athletic, debating and oratorical interests, and the student publication, the Industrial Collegian, are under the control of the Student Association, which governs these activities by means of a Board of Control

consisting of students and members of the faculty. This board is organized into the Athletic, the Collegian, and the Debating Councils, each of which directs the respective interests that come under it. A fee of \$3.00 a term (\$5.00 for the School of Agriculture term) is charged for membership, which admits the holder to all student activities under the supervision of the association and pays for a subscription to the Industrial Collegian.

The Women's Self-Government Association.—This is a co-operative government organization for women. Each woman by virtue of her registration is a member of the league and is expected to cooperate in carrying out the policies of the association.

Athletics.—Under the auspices of the local organization and a number of college athletic associations of the State, all kinds of athletic sports are practiced and encouraged. Students should understand, however, that their studies must receive the first consideration; and that the purpose of athletic exercises is to develop gentlemanly qualities in those who participate in them.

Oratory and Debating.—Each year for a number of years representatives of the College have met students from other institutions in debating contests. The members of the local teams are chosen in a series of preliminary contests in which all are encouraged to take part. There have thus been aroused among the student body a large interest in this kind of work and a healthy rivalry to obtain places on the intercollegiate teams.

Upon the recommendation of the instructor in charge of debating, college credit is given students who take part in intercollegiate debates.

A representative of the College is sent each year to the intercollegiate oratorical contest of the State. This student is selected by means of a local preliminary contest. In order that this contestant may fully represent the College, the faculty has imposed the requirement that those competing for this honor must be pursuing regular work for the bachelor's degree.

The Student Publications.—The Industrial Collegian is a weekly paper published by the students of the College. It is intended to be a mirror of student life at this institution, and all phases of college activity have representatives on its staff of editors.

The Jack Rabbit is published annually by the junior class, and is a good representative and exponent of college life.

The editors-in-chief of the Collegian and the Jack Rabbit may receive two hours of extra credit for this work if they take the course in News Writing at the time they are performing these duties, or if they have already taken this course.

The Literary Societies.—The literary society is an important factor in the education of the students and all are strongly advised to take part in this kind of work. There is a number of such societies in the College both for collegiate and secondary school students.

The Christian Associations.—In the state schools the Young Men's and Young Women's Christian Associations occupy unique positions. They are the only organizations whose primary object is the moral development of the student body. Their platforms are broad enough to allow every student who stands for pure manhood and womanhood to affiliate with them. The purpose of the associations is to present the value of Christian living to the student and to the state, and to create an atmosphere of good-fellowship among the members of the student body.

Other Student Organizations.—Among these may be mentioned the Art Club, which encourages interest in art by bringing exhibits to the College and in various other ways; the Chorus, Orchestra, and Bands, which give a series of musical entertainments during the year; the Agricultural Club, the Engineering Club, the Pharmacy Club, the Home Economics Club, the Commercial Club, the Fine Arts Club, the Graphic Arts Club, and other organizations which promote interest along the various lines of college work.

TUITION, LIVING, AND OTHER EXPENSES

Tuition and Other Fees.—The following tuition fees are charged:

Seven dollars for the fall term, \$7 for the winter term, \$6 for the spring term.

Ten dollars for the School of Agriculture term of five months.

Ten dollars for each Summer School term of six weeks.

No deduction in tuition fees is made when a student enters late.

The regulation of the Regents with reference to late registration (see page 30 of this bulletin) has been changed to the requirement that \$2.00 shall be collected of all students who complete their registration subsequent to the time announced for that purpose. A student's registration is completed when his card has been returned to the Secretary's Office and all fees have been paid.

For which there is no tuition to those who hold them, are granted to the following persons: (1) Honor graduates from accredited high schools. (2) Persons who have been honorably discharged from active military and other war service. (3) Students who receive scholarship appointments from their state senators or representatives. (4) A few graduate students to enable them to pursue work towards the master's degree. For further details see the section of this bulletin describing "Scholarships and Honors."

Estimate of Expenses.—On account of the rapidly changing financial conditions, it is not possible to make a very accurate estimate of the necessary yearly expenses of a student.

At the present time these are approximately as follows for the college year:

Board and Room -----	\$300.00
Tuition -----	20.00
Fees in Student Association ----	9.00
Laboratory Fees -----	15.00
Books and Supplies -----	40.00
Laundry Expenses -----	25.00
Incidentals -----	40.00
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	\$449.00

While the above is considered as a reasonable estimate, much depends upon the character of the student and the work he is taking.

Clothing is not included in the above estimate, since this item is approximately the same, whether the person is in college or not. However, all able-bodied men of collegiate rank below the junior year and of all classes except the first in the school of agriculture are required to take military drill and are furnished uniforms by the War Department, thus being saved considerable expense.

Rooms and Board.—Every effort is made by the college authorities to render the living conditions of the students wholesome and pleasant. If new students will write—the men to the Secretary of the Young Men's Christian Association, the women to the Dean of Women—these persons will arrange to have them met at the train and to assist them in getting suitably located.

All students must live in rooming places approved by the faculty. Wherever students reside, they are expected to conform to the general regulations of the College governing absences from the home, study hours, and other matters. Men students are not permitted to room in residences where women students, women employed in or about the city, or any girls or women not members of the housekeeper's immediate family, are rooming. This rule applies conversely to women students. A special bulletin giving the college regulations concerning relations of students and landladies, and other such matters, may be obtained by applying to the Registrar.

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A laboratory fee is charged for the use of each laboratory in which the student takes work. (See index for reference to "Laboratory fees.")

As an inducement to students to register promptly, the regents have imposed the rule that a tardy-enrollment fee of twenty-five cents per day shall be collected of all students who enroll subsequent to the regular day announced for that purpose. However, in no case shall the tardy-enrollment fee exceed one dollar and fifty cents.

By action of the regents the tuition and incidental fees and laboratory fees, after having been paid, will in no case be refunded.

Scholarships, which afford free tuition to those who hold them, are granted to the following persons: (1) Honor graduates from accredited high schools. (2) Persons who have been honorably discharged from active military and other war service. (3) Students who receive scholarship appointments from their state senators or representatives. (4) A few graduate students to enable them to pursue work towards the master's degree. For further details see the section of this bulletin describing "Scholarships and Honors."

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Women students whose homes are not in Brookings are required to room and board in the women's dormitories unless permission to do otherwise is granted in advance by the college authorities. Men students can find approved rooms in private homes, or in the men's dormitory. Since this building has been provided for the accommodation of the vocational men, these will be taken care of before rooms are assigned to other men. (See following pages for details concerning the dormitories.)

The Women's Dormitories.—The two dormitories, Weno-na Hall and Wecota Hall, will accommodate about one hundred eighty young women. Everything possible is done to make a real home for those who live there. The young women are given a large share in the government of the halls, and are thus encouraged to form orderly habits and high ideals of conduct.

Precautions have been taken to reduce danger from fire to a minimum. The buildings are heated by steam and lighted by electricity. Bath rooms, toilet rooms and lavatories are on each floor. In addition, each room is provided with a large closet and a stationary washstand with hot and cold water.

Each room is provided with two single cots or beds, mattresses, two straight chairs, study table, dresser with mirror, rug and window shades. Bedding, including pillows, towels and other articles, must be provided by the students. Each girl should provide herself with a mattress pad, two pairs of pillow cases, three sheets, two pairs of blankets, napkin ring, six towels and a clothes bag.

The cost of rooms in the halls for each occupant, two in a room, is \$15.00 for the term of three months, or \$25.00 for the school of agriculture term. This fee includes both light and heat. The room rent is payable in advance. The occupants are expected to take care of their own rooms.

A student desiring a room reserved must forward \$5.00 with her application. This will apply on the regular room rent for the term. In no case will this advanced payment be refunded after September first.

The Vocational Men's Dormitory.—The cost of room for each occupant, two in a room, is \$18 per term (\$1.50 per week). There are several suites of two rooms in the building which are suitable for light housekeeping. These will be rented to married couples at \$60 per term (\$20 per month of four weeks) for each suite with no bedding furnished or care of rooms. All men furnish their own towels and soap.

If any vacant rooms remain after the vocational men are all provided for they will be rented to other men students at the same rate excepting that bedding (sheets, pillow slips and blankets) will not be furnished or laundered. It will always be distinctly understood that any such students must vacate rooms, if need be, in favor of vocational men.

The College Dining Hall.—In connection with the ladies' dormitories, a large dining hall and a cafeteria are conducted, not only for the young women who room in the buildings, but also for other students, both young women and men, who room elsewhere. The cost of board is thus reduced to a minimum.

During the past year table board has been \$5.00 a week. The cafeteria arrangement permits a wide selection of food at a reasonable rate. Owing to the unsettled conditions at the present time it is impossible to state what the cost of board will be during the next year. However, the dining hall will be conducted so as to provide wholesome fare at minimum cost.

Payment for board in the dining hall must be made for four weeks in advance, and no deduction will be made for less than one week's absence, or a refund for less than one week.

Student Labor.—There is a limited amount of paid labor about the institution which can be done by students and it is the policy of the college authorities to give as much work to deserving students as is consistent with the best interests of all. However, no one should expect to earn his entire expenses while in college.

ADMISSION

General Requirements.—Candidates for admission to any department of the College must be at least fourteen years of

age (sixteen for admission to the tractor and auto-mechanics course) and of good moral character.

Students who are unable to present sufficient credits for high school work to enter the freshman class of the college courses may take entrance examinations during the time set apart for registration at the beginning of each term.

The completion of the eighth grade is required of those who enter the school of agriculture. To enter the tractor and auto-mechanics course and the three-month dairy course a reasonable knowledge of the English language is necessary.

Entrance Credits.—The four-year accredited high school course is the standard of entrance to the collegiate courses, and the graduate of such a high school course will be admitted to full freshman standing upon presenting a certificate from the principal, superintendent or other official of his high school specifying the subjects and the credits in each included in his course of study. Application blanks for this purpose are furnished by the College. However, if the student has not had all the subjects specified for entrance to the collegiate course he is entering, (see list of prescribed entrance units on the following pages), he must make up this deficiency. He will not be allowed to count this credit on any course of study which requires it for entrance.

A candidate for entrance to the freshman class who is not a graduate of an accredited four-year high school course must present fifteen units of entrance credit. A unit is a subject which is taught five times a week thruout the year, or the equivalent of this work. Of the fifteen units required for entrance some are prescribed, the remainder being optional.

The list of prescribed and optional subjects is as follows:

Prescribed Units

English, three units in advance of grammar. These should consist of composition work and a study of some of the simpler American and English classics.

Algebra, one and one-half units for engineering students, one unit for others. The fundamental operations, factoring,

fractions, simple equations, involution, evolution, radicals, quadratic equations and the analysis and solutions of problems involving these principles.

Plane Geometry, one unit. The completion of plane geometry. Special emphasis should be paid to the solutions of original problems and to constructions. Students of engineering who have not completed solid geometry in the high school will be required to take the subject in the freshman year of the college course.

History, one and one-half units. This work should follow, and not include, elementary United States history, and should be a connected study of some of the following lines: ancient, medieval, modern, English, and American history.

Civics, one-half unit. A study of the constitutions of the United States and of the State, as presented in the best high schools.

While foreign language is not required for entrance to the college courses, it is very desirable that students have two years work in German, French, Spanish, or Latin in preparation for their college work. Credits for less than one year of foreign language will not be accepted for entrance unless the student continues the subject in the College until the unit is completed.

Optional Units

The remaining units, which are optional, may be offered in the same lines of work as the prescribed units and in other departments. The work for which credit is given must be of reasonably high grade, and a reasonable amount in each subject must have been covered. Not more than four units will be accepted in vocational subjects. This rule does not apply to graduates of an accredited high school of four years, who, as already stated, are admitted to full freshman standing.

Advanced College Credit.—Advanced credit in the College may be obtained by presenting certified grades from other institutions of reputable standing or by examination. The College reserves the right, however, to cancel grades accepted

from other schools should the student be found deficient in the subject for which he has received credit. A student entering with advanced credit in subjects not prescribed in the course he is pursuing may use these as electives as far as his course permits. Reasonable substitutions of additional credits for prescribed work are also allowed. Applicants for admission to the collegiate courses are strongly urged to submit their entrance and advanced credits by mail before the opening of the college year and thus facilitate the work of registration. The College will furnish such persons with application blanks, which, after being filled out with certified standings and other information, should be returned to the Registrar.

SCHOLARSHIP AND REGISTRATION REQUIREMENTS

The Unit of Credit.—A credit or credit hour is the measure of the work done in carrying a subject for one term with one recitation a week or its equivalent. In work of college rank a recitation is intended to be accompanied by one and one-half to two hours of preparation. Three hours in the laboratory where no outside work is required are counted equivalent to one recitation with the accompanying preparation.

In preparatory or other secondary work the student is expected to spend at least one hour in preparation for a recitation, and two hours of laboratory work without additional outside work are counted as equivalent to one recitation with the accompanying preparation.

Grades and Grade Points.—The work of students is graded by means of letters to each of which is assigned a certain value in grade points.

M (Medium) means that the student's work is of medium or average grade.

S (Superior) means that the work is above the average but not as high as

E (Excellent) meaning that the work is so far above the average as to merit special mention.

I (Inferior) means that the work is below the average, but not as low as

P (Passed), meaning that the student has only a sufficient knowledge of the subject as to make it unprofitable for him to repeat the subject.

C (Conditioned) means that the work of the student has not been satisfactory, but that it may be brought up to a passing grade without being repeated in the class, provided this is done according to the rules prescribed below.

D (Deferred) means that the student's work has been qualitatively satisfactory, but that for some reason beyond his control, part of the subject has not been completed.

F (Failed) means that the work of the student has been so poor that he should repeat the subject with the regular class in order to secure a passing grade.

Each instructor reports a grade for every student of his classes by means of letters M, S, E, I, P, F, C, and D and also makes an auxiliary report to the registrar, giving information as to why the grades C and D are assigned.

The grades M, S, E, I, P, and F, after having been reported to the Registrar, may not be changed except by faculty action.

The marks C and D may be changed according to the following rules.

The Removal of C and D Marks.—The work for which C or D has been received may be made up in one of two ways:

First, by repeating the work with a regular class.

Second, by making up the deficient work outside of the regular class, provided suitable arrangements to do so can be made with the department; and if the approval of the class adviser is secured in advance. This may necessitate taking work under a tutor under the supervision of the department. Work made up in this manner must be done during the term following that in which the subject was pursued unless permission to defer the matter is secured from the classification committee. (See "Rules and Regulations" of the College.

The mark C cannot be converted into a grade higher than P unless the subject is repeated with the class. This does not apply to the mark D.

A subject in which F has been received must be repeated the next time it is regularly offered, provided it is prescribed in the course of study the student is following.

Grade Points.—Grade points are assigned to the letters for each credit as follows:

E—1.2 grade points.

S—1.1 grade points.

M—1 grade point.

I—.9 of a grade point.

P—.8 of a grade point.

C, D and F—No grade points.

In general, the number of grade points required for graduation in any collegiate course is at least equal to the number of credits required. This requires that the student who does not carry his work at an average grade or higher must complete additional work in order to graduate.

In order to encourage higher scholarship in the College the faculty has adopted the rule that the excess grade points of a student may operate to reduce by an equal number the credits required for graduation in any of the collegiate courses according to the following restrictions:

1. Not more than an excess of three grade points may be used during any one year.

2. Excess grade points in limited credit courses (type-writing, music, etc.) may not be used to reduce credits in this way.

3. Except by special faculty action excess grade points shall not be used to reduce credits in prescribed subjects.

Advanced credit from other colleges will be accepted for grade points on the basis of M, that is, one credit to one grade point.

Registration.—In registering for work the student is advised by a member of the faculty who helps him to make out a consistent schedule of studies. In general he is expected to classify in the normal amount of work in the scheme of study he is pursuing.

The student of college rank will not be allowed to register in more than nineteen credit hours the first term of his attendance, and not more than nineteen hours any subsequent term unless his work during the preceding term is of a high character, and then only by special action of the faculty committee in charge of registration.

Elective Work.—Unless there are statements to the contrary, elective work in the college schemes of study may be chosen from any subjects offered for college credit in the different departments. It is recognized that music, the fine arts, typewriting, and a few other subjects may have a place in a well balanced course of study and the student may present for graduation a limited amount of credit from these lines of work. See index for reference to statement concerning "Limited Credit Subjects."

No instructor is required to give an elective subject to fewer than five students.

Military Requirements.—The national law organizing and endowing state agricultural colleges makes military training compulsory for all physically fit male students below the junior year, three hours weekly being required under the law. Fitness for this training is established by physical examination conducted by a surgeon appointed by the College, and without expense to the student.

Under the provisions of the National Defense Act establishing the Reserve Officers' Training Corps in this and other educational institutions for the purpose of training officers of the army, junior students who have satisfactorily completed the military work of the freshmen and sophomore years, and whose record and character are such as to warrant their selection by the Professor of Military Science and Tactics, may elect Advanced Military Training (5 hours weekly) during the remainder of the course, upon satisfactory completion of which they will be eligible for appointment as Second Lieutenant in the Officers Reserve Corps of the army of the United States.

Students undergoing Advanced Military Training receive commutation of rations from the National Government from time of their acceptance in the Advanced Course until graduation. This sum varies, being the exact amount required each month for the sustenance of a soldier in the regular army. Payments are made quarterly in cash or by government check.

Advanced students are also allowed commutation of uniform, the value being \$30 for the first year and \$6 for upkeep during the second year. On electing to take the advanced military work a student is required to make a deposit of \$10 on account of uniform. On graduation the uniform becomes the personal property of the student; but if for any reason a student withdraws or is dropped from military training he will be required to return the uniform or pay for it.

Physical Training.—Women students of the freshman and sophomore classes and men students of the freshman class are required to take physical training twice a week throughout the year, unless they are engaged in some other regular physical exercise. Additional physical training may be required of students who need corrective exercises. Personal hygiene, first aid to the injured and similar topics are given in connection with the freshman work in physical training.

Conditioned Students.—Any student who without good reason has failed to receive a passing grade in a reasonable amount of his work will be registered only conditionally for future work. And if any student at any time is not carrying the work in which he is classified at a passing grade, or fails to perform other duties which may be expected of him, he may be placed upon the conditioned list and thus debarred from certain student privileges, or he may be dropped from the College.

Absences.—The student is held responsible for all absences from classes or other assignments. If he has a good reason for being absent, he should have his absences excused by the proper officer.

Absences from class, even for good reason, such as sickness or official representation on an intercollegiate team, militate against good scholarship. Therefore, if the number of excused absences in a subject passes beyond a reasonable limit a reduction of grade-points or credits may be made in the student's record.

All absences without good reason are offenses against good conduct. Therefore a sharp distinction is made between excused and unexcused absences. A greater reduction will be made in the student's record for the latter than for the former, and continued absence from classes without excuse may result in suspension.

If a student can make suitable arrangements with his instructors, he may make up work that has been missed because of excused absences, in which case the deduction will not be made from his record. This is not always possible, however, and students should understand that their instructors are not under any obligations to make such arrangements.

Work missed because of unexcused absences may not be made up in this manner.

For further details concerning the treatment of absences, see the General Regulations for the Guidance of Faculty and Students, copies of which may be obtained upon application to the Registrar's office.

HONORS AND SCHOLARSHIPS

The Honor Key.—In order to give recognition to students graduating with the degree of bachelor of science who have throughout their college course shown evidence of superior worth, honor keys are awarded according to the following general requirements.

The selection shall be made on the basis of scholarship, character, loyalty and service to the College, and prospects of rendering valuable service to humanity.

Not to exceed one-half of those members of the senior class of the regular four years courses, whose grades rank

them as to scholarship in the upper fourth of the class, shall be awarded keys.

All candidates must have done two years of residence work in the College.

The keys shall be awarded to men and women on an equal basis.

The election shall be held in April. The choice shall be made by the heads of departments, a two-thirds majority being necessary for election.

Free Scholarships.—Three kinds of free scholarships are available in the seven state educational institutions under the control of the State Board of Regents of Education according to the law and the rules of the Board of Regents of Education.

Honor Graduates from Accredited High Schools.—To the highest ranking young man and young woman of good moral character, graduating from any accredited four-year high school in South Dakota, shall be awarded free scholarships in the State University, the State College of Agriculture and Mechanic Arts, the State School of Mines, or in any of the State Normal Schools of the State. These scholarships shall afford free tuition and fees, except breakage charges, dormitory rent, and such deposits as may be required for the return of the equipment lent to the student, for any course or courses in these institutions, and shall in no case exceed \$60 in one fiscal year. Scholarships are not transferable from individual to individual, but upon the satisfactory completion of a year's work in one institution, may be transferred to another institution. A student transferring from one institution to another shall take with him the original copy of his scholarship, with his attendance record at the institution he is leaving endorsed thereon, and certified by the President or Registrar of the institution he is leaving. Scholarships may be withdrawn temporarily or permanently for misdemeanor or for failure or condition in any subject.

Special blanks are provided for students wishing to apply for scholarships.

The acceptance of free scholarship provisions must be filed with the Secretary of the Regents of Education during

the calendar year of graduation, otherwise the right will lapse. The scholarship will lapse if not used during the school year following high school graduation unless an extension of time for good and sufficient reasons be granted in advance by the Regents of Education.

If the student leaves one school and does not immediately attend another school, or drops out for more than one calendar year, the scholarship expires. If, however, his course is interrupted by his own illness or by the illness or death of a member of his family, he may continue in the possession of his scholarship, if, after the presentation of his case to the Regents of Education, it seems clear that the interruption to his course of study was unavoidable.

Senatorial and Representative Scholarships.—Each State Senator may issue scholarships to two students and each Representative to one student in any one of the institutions under the control of the Board of Regents of Education. These scholarships exempt the students from the regular tuition fees which amount to twelve dollars for the regular college year. These scholarships expire with the terms of office of the Senators or Representatives who give them.

Special blanks are provided for students wishing to apply to their Senators or Representatives for these scholarships.

War Veterans.—Free tuition and fees are given by the institutions under the control of the Board of Regents of Education to residents of the State who have performed military service and who have been discharged or released from active service. This includes any person who has performed active war service in nursing or assisting in the care of soldiers or sailors as a member of the Red Cross or any similar organization engaged in war relief work which was recognized and approved by the government. Applicants for these scholarships should bring their discharge papers when they enroll.

Graduate Scholarships.—A few scholarships are available for graduates of this or other colleges of equal rank. These pay from \$100 to \$400 and permit the student to carry graduate work toward the degree of Master of Science.

DEGREES AND CERTIFICATES

The Degree of Master of Science.—The degree of Master of Science is conferred upon students who have received the degree of Bachelor of Science from this or some other institution offering an equivalent course of study and who in addition have completed a year of advanced work in residence in accordance with the regulations of the College. Before becoming a candidate for this degree the student's application must be approved by the Committee on Advanced Degrees in accordance with the regulations which are issued in a special bulletin, copies of which may be secured from the registrar.

Professional Degrees in Engineering.—The degree of Civil Engineer, (C.E.), Mechanical Engineer, (M.E.), or Electrical Engineer, (E.E.), may be conferred upon a graduate of this institution who has made a superior record in college and in the practice of his profession, and who in addition has complied with the regulations of the College governing this degree. These regulations are issued in a special bulletin which may be obtained from the registrar.

The Degree of Bachelor of Science.—The courses of study leading to this degree are each of four years, as outlined on pages beginning with page 51, and are as follows:

The courses in Agriculture, in which the student has the opportunity of specializing along the lines of animal husbandry, dairy husbandry, agronomy, horticulture and plant pathology, and teacher training.

The courses in Engineering in which the student may specialize in mechanical and electrical engineering, or in civil engineering. For information concerning the professional degree in engineering see above.

The courses in Home Economics. These include a general course, and courses in which the student may specialize in foods and dietetics, clothing and millinery, or in teacher training work. For details concerning the teacher training work see the department of education.

The course in General Science. The work of this course is

largely elective and is planned to give the student a liberal education, at the same time permitting specialization in the sciences.

The four years course in Commercial Science.

The course in Pharmacy. For details concerning the two years and the three years courses in Pharmacy see following paragraph.

The four years course in Printing.

The Degrees of Pharmaceutical Chemist and Pharmacy Graduate.—The work of the first two years of the four years course in Pharmacy as outlined leads to the degree of Pharmacy Graduate, and upon the completion of the third year the student may receive the degree of Pharmaceutical Chemist. (For announcement concerning future changes in the pharmacy courses see statement preceding the outline of the course in pharmacy.)

Special and Secondary Courses.—The College offers courses in several important and practical lines of work in addition to the courses of study for degrees. These are mentioned elsewhere in the bulletin under the proper headings, and are as follows:

The four years course in the Secondary School of Agriculture.

The one year Tractor and Auto Mechanics Course.

The three months Practical Creamery Course.

The Summer School, consisting of two six weeks sessions.

Courses in Vocal and Instrumental Music.

Special work in the Art Department.

Special work in industrial arts for the training of teachers, by the Industrial Arts Department.

The one year secretarial course, by the Department of Commerce.

Special work in the Department of Printing.

THE SUMMER SCHOOL

The work of the Summer Session is planned especially for those who desire training along the industrial lines—agriculture, manual training, home economics, instructional, vocational and allied subjects—either to secure college credits or to prepare for teaching. Advanced and review work will be offered.

The vocational field offers excellent opportunities to teachers, the demand far exceeding the supply. The College is primarily a vocational institution and one of its principal functions is to train teachers along vocational lines, its shops, laboratories, experimental plots, and live stock being available for this purpose.

In addition to members of the regular college staff, special instructors and lecturers are employed during the session.

The tuition is \$10.00 for each term of six weeks, small additional fees being charged in laboratory subjects to pay for material that is used.

Good rooms at reasonable rates may be secured by men students in the city and by women students in the college dormitories. A dining hall for both men and women is conducted in connection with the dormitories, board being furnished practically at cost.

The first term of the Summer Session of 1923 will begin June 6 and close July 13; the second term will begin July 16 and close August 24.

Work will be given along the following lines:

Agriculture—Elementary agriculture, stock judging, farm dairying, soils and crops, poultry culture and special work for those interested in teaching agriculture in the common schools.

Home Economics—Cookery, serving, practice cottage, sewing, dressmaking, handwork, and drawing.

Mechanic Arts—Woodworking, joinery and cabinet construction, finishing, mechanical drawing, auto repairing, and special courses for rural school teachers.

Commercial Branches — Bookkeeping, shorthand, type-writing, penmanship, and business law.

Education—Educational psychology, history of education, principles of teaching, general vocational education, agricultural education.

Social Sciences—Rural sociology, agricultural economics, industrial history of the United States.

The Sciences—Chemistry, physics, nature study, organic evolution, sanitation, physiology.

English—Rhetoric, English literature, American literature.

Special Work for Rural Teachers — Primary methods, grammar, history, civics, geography, algebra, geometry.

For further information write for special Summer School Bulletin, addressing the Registrar, State College, Brookings, South Dakota.

THE AGRICULTURAL EXPERIMENT STATION

Under the provisions of the Hatch Act of March 2, 1887, and the Adams Act of March 20, 1906, the State receives annually \$30,000 from the treasury of the United States for the maintenance of an experiment station. By an act of the legislature this institution was made a part of the South Dakota State College. Its object is to investigate along agricultural lines, publish the results in bulletin form and distribute them to the residents of the State for their information and benefit. It consists of five divisions, namely: agronomy, animal husbandry, dairy husbandry, entomology, and horticulture.

Each of these divisions is in charge of an expert who is also professor of the same subject in the College.

About sixty acres of the college farm are set aside for experiments in crop rotation and testing varieties of grains.

Another tract of sixty acres is utilized for experiments along horticultural lines, where trees, shrubs and vines are grown in profusion. Adaptation of grains, grasses, forage plants, fruits, trees, shrubs and vegetables for the Northwest is being carried on in co-operation with the United States Department of Agriculture and as a result many valuable varie-

ties have been introduced which probably would not otherwise have reached us.

Each division is provided by the State with the proper facilities to conduct investigations, and at least four bulletins are published annually, which are free to residents of the State. Inquiries pertaining to the various agricultural interests are answered promptly. The regular mailing list of the station numbers over 22,000 names.

All communications to this department should be addressed to the Director, Agricultural Experiment Station, Brookings, South Dakota.

THE AGRICULTURAL EXTENSION DIVISION

In 1914 Congress passed the Smith-Lever Act, appropriating a sum of money to the various states in which Agricultural Extension Work including home economics should be established. The state of South Dakota in its last legislative session appropriated sufficient funds to meet the requirements of the Federal Act. In addition it appropriated \$51,000 for County Farm Bureau work for the biennial period. Activities are carried on under the project plan as follows:

1. Administration.
2. County Agent Work.
3. Short Courses.
4. Boys' and Girls' Club Work.
5. Home Demonstration Work.
6. Dairying.
7. Farm Management.
8. Livestock Improvement.
9. Agricultural Engineering.
10. Horticulture.
11. Animal Diseases.
12. Agronomy.
13. Entomology.
14. Poultry.
15. Clothing.
16. Foods.

Any county in the State may secure the benefits of Federal and State appropriations in the following manner: It shall be lawful for 50 or more freeholders residing in at least one-third of the congressional townships of the county to organize and incorporate a County Farm Bureau. The members of the association shall pay a membership fee of one dollar and shall file articles of incorporation with the Secretary of State, and elect a Board of Directors. The directors may secure an appropriation from the County Board of Commissioners which may be deposited with the Treasurer of State and be augmented from the state funds by 60 per cent of the amount deposited. The county is then in a position to ask for Federal assistance.

The state law provides for the conducting of demonstration courses in Agriculture and Home Economics in all counties not employing a county agent. This work is under the immediate supervision of the Extension Division and is conducted during the late fall and winter months. It takes the place of Farmers' Institutes of former years.

Boys' and Girls' Club Work is carried on in co-operation with the county superintendents of schools and through the County Farm Bureaus. This work is in charge of a State Club Leader. It consists of the organization of boys and girls between the ages of 10 and 18 years into clubs for the purpose of growing corn, economical pig raising, gardening and canning, bread and garment making, etc.

The federal emergency appropriation ceased July 1st 1919, and most of the counties organized under the Emergency Act have continued as permanent counties under our state law.

Some counties maintain, in addition to the county agent, a home demonstration agent or a boys' and girls' club leader.

Communications to this division should be addressed to the Director of Extension, State College, Brookings, South Dakota.

Plans of the Collegiate Courses of Study

On the following pages are outlined the courses of study leading to degrees. These are

The four years courses in Agriculture.

The four years courses in Engineering.

The four years courses in Home Economics.

The four years course in Pharmacy.

The three years course in Pharmacy.

The two years course in Pharmacy.

The four years course in Commercial Science.

The four years course in General Science.

The four years course in Printing.

For entrance to these courses the student should have completed a four years course in an accredited high school or present fifteen units of entrance credit as indicated under "Entrance Requirements."

Junior and senior electives must be approved by the head of the department in which the student is specializing.

THE FOUR YEARS AGRICULTURAL COURSES

As indicated in the scheme outlined below, the freshman and sophomore years and certain subjects of the junior and senior years are prescribed for all agricultural courses. At the beginning of the junior year, the student is expected to select one of the following groups: Agricultural Education, Agronomy, Animal Husbandry, Dairy Husbandry, and Horticulture.

Upon the completion of the prescribed subjects and additional elective work to make 210 term credits, with 210 grade points, the student may receive the degree of Bachelor of Science in Agriculture.

Agricultural Course

Freshman Year

	Fall	Winter	Spring
Veterinary Anatomy, Veterinary 1		2	
Inorganic Chemistry, Chemistry 1a, 1b, 1c	3	3	3
Rhetoric, English 1a, 1b, 1c	3	3	3
General Botany, Botany 1a, 1b, 1c	3	3	3
Grain and Root Crops, Agronomy 1a, 1b		3	3
Farm Dairying, Dairy Husbandry 1a			3
General Horticulture, Horticulture 1a	2		
Farm Machinery			2
General Principles of Poultry Culture, Poultry Husbandry 1	3		
Stock Judging, Animal Husbandry 1a, 1b	3	3	
Military Drill, Military Science 1a, 1b, 1c	1½	1½	1½
Physical Training and Hygiene	¾	¾	¾
	19	18¾	18¾

Sophomore Year

	Fall	Winter	Spring
Survey of American Literature, English 6a, 6b, 6c, or			
Survey of English Literature, English 7a, 7b, 7c	2	2	2
Extempore Speaking, English 20a, 20b, 20c	1	1	1
Organic Chemistry, Chemistry 2	5		
Quantitative Analysis, Chemistry 3		3	
General Horticulture, Horticulture 1b			2
Heredity, Botany 8			3
Farm Dairying, Dairy Husbandry 1b	3		
Live Stock Management, Animal Husbandry 6			2
General Bacteriology, Bacteriology 1		4	

	Fall	Winter	Spring
General Zoology, Zoology 1a, 1b -----	3	3	
Industrial History, History 7 -----			4
Veterinary Physiology, Veterinary 2 -----			3
Mathematics -----	3		
Physics -----		4	
Military Drill, Military Science 2a, 2b, 2c -----	1½	1½	1½
	<hr/> 18½	<hr/> 18½	<hr/> 18½

AGRICULTURAL EDUCATION GROUP

Note—This group prepares for the State Professional Diploma necessary to teach agriculture in agricultural departments of high schools complying with the state and federal requirements for financial aid under the Smith-Hughes law.

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c -----	4	4	4
General Entomology, Entomology 20a, 20b --		3	3
General Economics, History 21 -----	4		
Introduction to Agricultural Education, Education 31a -----	3		
Educational Psychology, Education 32 -----		4	
Principles and Methods of Education, Education 33 -----			4
Agricultural Economics, Farm Economics 1 ----			4
Farm Woodworking, Industrial Arts 5 -----		2	
Forging, Mechanical Engineering 1a -----			2
Electives -----	6	4	
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Animal Nutrition, Animal Husbandry 4 -----	3		
Methods of Teaching Vocational Agriculture, Education 49A -----		4	
Vocational Agriculture Course of Study, Education -----			3
*Practice Teaching of Agriculture, Education PTA49 -----		4	
*Elective in Education -----			3
Farm Shop Work, Industrial Arts 6 -----			3
Rural Sociology, History 32 -----			4
**Elective -----	14	9	4
	<hr/> 17	<hr/> 17	<hr/> 17

*Practice Teaching Agriculture and Education electives any term.

**Electives should include such required work as is found in groups in Agronomy, Animal Husbandry, Dairying, and Horticulture, and work in Farm Management.

AGRONOMY GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c -----	4	4	4
General Entomology, Entomology 20a, 20b -----		3	3
General Economics, History 21 -----	4		
Crop Breeding, Agronomy 2a 2b -----		3	3
Seed Inspection, Agronomy 5 -----	3		
Elective -----	6	7	7
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Geology, Agronomy 14 -----			5
Forage Crops, Agronomy 4 -----			3
Animal Nutrition, Animal Husbandry 4 -----	3		
Meteorology, Agronomy 15 -----		4	
Elective -----	14	13	9
	<hr/> 17	<hr/> 17	<hr/> 17

ANIMAL HUSBANDRY GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c -----	4	4	4
Animal Nutrition, Animal Husbandry 4 -----	3		
General Entomology, Entomology 20a, 20b -----		3	3
Veterinary Pathology, Veterinary 3 -----		2	
Swine Production, Animal Husbandry 8b -----		3	
Horse Production, Animal Husbandry 8a -----		3	
Beef Cattle Production, Animal Husbandry 8c --			3
General Economics, History 21 -----	4		
Agricultural Economics, Farm Economics 1 ----			4
Elective -----	6	2	3
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Applied Embryology, Veterinary 6 -----	1		
Advanced Stock Judging, Animal Husbandry 2--	3		
Sheep Production, Animal Husbandry 8d-----	3		
Animal Breeding, Animal Husbandry 3 -----		3	
Live Stock History, Animal Husbandry 7 -----			4
Contagious Diseases, Veterinary 5 -----		4	
Elective -----	10	10	13
	<hr/> 17	<hr/> 17	<hr/> 17

DAIRY HUSBANDRY GROUP

Junior Year

	Fall	Winter	Spring
Soils, Agronomy 9a, 9b, 9c -----	4	4	4
General Economics, History 24 -----	4		
Agricultural Economics, Farm Economics 1 ----			4
Animal Nutrition, Animal Husbandry 4 -----	3		
Dairy Bacteriology, Dairy Husbandry 3 -----		4	
General Entomology, Entomology 20a, 20b -----		3	3
Dairy Management, Dairy Husbandry 6 -----			3

Dairy Production

Vet. Pathology, Veterinary 3 -----		2	
Elective -----	6	4	3

Dairy Manufactures

Dairy Inspection, Dairy Husbandry 2 -----	3		
Dairy Technology, Dairy Husbandry 7 -----			
or			
Manufacture of Cheese, Dairy Husbandry 5 -----	5		
Manufacture of Butter, Dairy Husbandry 4 -----			5
Elective -----		6	
	17or19	17	17or19

Senior Year

Dairy Seminar, Dairy Husbandry 14 -----			2
---	--	--	---

Dairy Production

Animal Breeding, Animal Husbandry 3 -----		3	
Contagious Diseases, Veterinary 5 -----		4	
Dairy Cattle Feeding, Dairy Husbandry 15 -----	3		
Applied Embryology, Veterinary 6 -----	1		
Advanced Study of Dairy Breeds, Dairy Husbandry 16 -----		3	
Elective -----	13	7	15

Dairy Manufactures

Manufactures of Cheese, Dairy Husbandry 5 -----			
or			
Dairy Technology, Dairy Husbandry 7 -----	5		
Advanced Dairy Inspection, Dairy Husbandry 11 -----		4	
Management of Dairy Plants, Dairy Husbandry 17 -----			3
Business Law, Commerce 2a, 2b -----	3	3	
Creamery Accounting, Commerce 12 -----			2
Elective -----	9	10	10
	17	17	17

HORTICULTURAL GROUP**Junior Year**

	Fall	Winter	Spring
General Economics, History 21 -----	4		
Soils, Agronomy 9a, 9b, 9c -----	4	4	4
General Entomology, Entomology 20a, 20b -----		3	3
Farm Forestry, Horticulture 2 -----	2		
Landscape Gardening, Horticulture 8 -----	2		
Plant Physiology, Botany 3 -----			3
Plant Diseases, Botany 4 -----		3	
Agricultural Economics, Farm Economics 1 ----			4
Tree Fruit Culture, Horticulture 3a 3b -----	2		2
Elective -----	3	7	1
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Orchard Entomology, Entomology 23 -----			3
Garden Entomology, Entomology 24 -----		3	
Agricultural Publicity, Agricultural Journalism 1		2	
Agricultural Economics, History 22 -----		4	
Marketing and Co-operation, History 23 -----			3
Plant Breeding, Horticulture 6 -----			2
Small Fruit Culture, Horticulture 5 -----			2
Systematic Pomology, Horticulture 4 -----	2		
Home Vegetable Gardening, Horticulture 10 ---			2
Nursery Practice, Horticulture 7a, 7b -----	2		2
Plant Materials, Horticulture 17 -----			2
Horticultural Problems, Horticulture 15 -----	1	1	1
Elective -----	12	7	
	<hr/> 17	<hr/> 17	<hr/> 17

Alternate I. Those who specialize in Market Gardening should substitute Vegetable Forcing (Horticulture 11) and Commercial Vegetable Gardening (Horticulture 12) for Nursery Practice (Horticulture 7a, 7b) and Home Vegetable Gardening (Horticulture 10).

Alternate II. Those who specialize in Landscape Gardening should substitute Landscape Design (Horticulture 14a, 14b, 14c) for Systematic Pomology (Horticulture 4), Small Fruit Culture (Horticulture 5), Home Vegetable Gardening (Horticulture 10), and Marketing and Co-operation (History 23).

THE FOUR YEARS COURSES IN ENGINEERING

The College offers courses in Mechanical, Civil and Electrical Engineering. As indicated below, the work of the freshman and sophomore years is the same for all three of

these courses, with the exception that in the sophomore year students of Civil Engineering take topographical surveying instead of machine shop which is required of students of Mechanical and Electrical Engineering.

The course in Civil Engineering gives an option in the senior year which permits students to prepare themselves for work in highway engineering, in which there are now many opportunities for trained civil engineers.

Upon the completion of the prescribed subjects and additional elective work to make 204 term credits, with 204 grade points, the student may receive the degree of Bachelor of Science.

Engineering Courses

Freshman Year

	Fall	Winter	Spring
Inorganic Chemistry, Chemistry 1a, 1b, 1c -----	3	3	3
Rhetoric, English 1a, 1b, 1c -----	3	3	3
College Algebra, Mathematics 2 -----	5		
Trigonometry, Mathematics 3 -----		5	
Analytic Geometry, Mathematics 4 -----			5
Engineering Drawing, Mechanical Engineering 3a, 3b -----	3	2	
Forging, Mechanical Engineering 1a -----	2		
Machine Shop, Mechanical Engineering 2a -----		3	
Descriptive Geometry, Mechanical Engineering 5 -----			2
Plane Surveying, Civil Engineering 1 -----			3
Military Drill, Military Science 1a, 1b, 1c -----	1½	1½	1½
Physical Training and Hygiene -----	½	½	½
	18	18	18

Sophomore Year

Calculus, Mathematics 5a, 5b -----	6	5	
Analytic Mechanics, Mathematics 6 -----			5
General Physics, Physics 1a, 1b, 1c -----	4	4	4
Survey English Literature, English 7a, 7b, 7c or			
Survey American Literature, 6a, 6b, 6c -----	2	2	2
Extempore Speaking, English 20a, 20b, 20c -----	1	1	1
Machine Shop (Mechanical Engineering and Electrical Engineering students),			

	Fall	Winter	Spring
Mechanical Engineering 2b or Topographical Surveying (Civil Engineering students), Civil Engineering 2 -----	3		
Machine Design, Mechanical Engineering 6 -----		4	
Elements of Mechanism, Mechanical Engineering 7 -----			4
Military Drill, Military Science 2a, 2b, 2c -----	1½	1½	1½
	<hr/> 17½	<hr/> 17½	<hr/> 17½

CIVIL ENGINEERING

Junior Year

	Fall	Winter	Spring
Hydrology, Civil Engineering 4a -----	1		
Hydraulics, Civil Engineering 4b -----	3		
Water Supply, Civil Engineering 13 or Roads and Pavements, Civil Engineering 12-----	3		
Elements of Electrical Engineering, Electrical Engineering 3 -----	5		
Steam Engines and Thermodynamics, Mechanical Engineering 9a, 9b -----	3	3	
Railroad Surveying, Civil Engineering 7 or Sewerage, Civil Engineering 14 -----		3	
Theory of Structures, Civil Engineering 5 -----		3	
Mechanics of Materials, Civil Engineering 6a, 6b -----		3	3
Industrial History, History 3a, 3b -----		3	3
Railroad Surveying, Civil Engineering 18 or Irrigation Engineering, Civil Engineering 15 ----			2
Elements of Design of Structures, Civil Eng. 8 --			3
Drainage Engineering, Civil Engineering 21 or Contracts and Specifications, Civil Eng. 22 -----			1
Bacteriology, Zoology 4 -----			4
Elective -----	2	2	1
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

	Fall	Winter	Spring
Masonry and Reinforced Concrete, Civil Engineering 9a -----	2		
Water Supply, Civil Engineering 13 or Roads and Pavements, Civil Engineering 12 -----	3		

	Fall	Winter	Spring
Economics, History 21 -----	4		
Bridge Design, Civil Engineering 11a -----	3		
Engineering Laboratory, Mechanical Engineering 12a, 12b, 12c -----	2	2	
Reinforced Concrete Laboratory, Civil Engineering 9b, 10b -----	2	1	
Railroad Surveying, Civil Engineering 7 or			
Sewerage, Civil Engineering 14 -----		3	
Reinforced Concrete, Civil Engineering 10a -----		3	
Geology, Agronomy 14 -----			5
Railroad Surveying, Civil Engineering 18 or			
Irrigation Engineering, Civil Engineering 15 ---			2
Structural Steel Design, Civil Engineering 19 ---			3
Heating and Ventilation, Mechanical Engineering 14 -----		3	
Drainage Engineering, Civil Engineering 21 or			
Contracts and Specifications, Civil Engineering 22 -----			1
Elective -----	1	1	4
A choice of one of the following groups is to be made.			

GROUP A

Bridge Design, Civil Engineering 11b -----	2		
Higher Structures, Civil Engineering 20 -----			2

GROUP B

Highway Engineering, Civil Engineering 16 ----		2	
Highway Engineering, Civil Engineering 17 ----			2
	17	17	17

ELECTRICAL AND MECHANICAL ENGINEERING

Junior Year

	Fall	Winter	Spring
Elements of Electrical Engineering, Electrical Engineering 3 -----	5		
Dynamos and Motors, Electrical Engineering 4 --		5	
Alternating Currents, Electrical Engineering 5 --			5
Machine Design and Kinematics, Mechanical Engineering 8 -----	3		
Mechanics of Materials, Civil Engineering 6a, 6b		3	3
Steam Engines and Thermodynamics, Mechanical Engineering 9a, 9b -----	3	3	
Steam Boilers, Mechanical Engineering 10 -----			3
Hydraulics, Civil Engineering 4b -----	3		

	Fall	Winter	Spring
Theory of Structures, Civil Engineering 5 -----		3	
Industrial History, History 3a, 3b -----		3	3
Elective -----	3		3
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Advanced Alternating Currents, Electrical Engineering 6 -----	5		
Electric Lighting, Electrical Engineering 7 -----		5	
Engineering Laboratory, Mechanical Eng. 21 --	2	2	2
Masonry and Reinforced Concrete, Civil Eng. 9a	2		
Contracts and Specifications, Civil Eng. 21 -----			1
Economics, History 21 -----	4		
Gas and Oil Engines, Mechanical Engineering 13			2
Heating and Ventilation, Mechanical Engineering 14 -----		3	

A choice of one of the following groups is to be made.

GROUP A

Dynamo Design, Electrical Engineering 9a, 9b --		2	2
Electrical Problems, Electrical Engineering 10 --		3	
Electrical Transmission, Electrical Engineering 8			5
Elective -----	4	2	5

GROUP B

Power Plant Design, Mechanical Engineering 15			4
Engineering Design, Mechanical Engineering 11		5	
Elective -----	4	2	8
	<hr/> 17	<hr/> 17	<hr/> 17

THE FOUR YEARS COURSES IN HOME ECONOMICS

These courses are designed to permit students to obtain a broad general training in home economics or to specialize along one of the three lines, foods and dietetics, clothing and millinery, and teacher training work in home economics.

As indicated in the schemes outlined, the subjects of the freshman and sophomore years, and certain subjects of the junior and senior years are the same for all. At the beginning of the junior year the student is expected to select one of the

four groups mentioned. Upon the completion of the prescribed work and sufficient elective work in addition to make 204 term credits, with 204 grade points, the degree of Bachelor of Science may be received.

Home Economics Courses

Freshman Year

	Fall	Winter	Spring
Rhetoric, English 1a, 1b, 1c -----	3	3	3
Inorganic Chemistry, Chemistry 1a, 1b, 1c -----	3	3	3
Design, Art 2a, 2b, 2c -----	2	2	2
Food Preparation and Marketing, Home Economics 1a, 1b -----	4	4	
Household Physics, Physics 3 -----			5
Elementary Sewing, Home Economics 9a, 9b -----	3		3
Textiles and Laundry, Home Economics 10 -----		4	
Freshman Lectures -----	$\frac{1}{2}$	$\frac{1}{2}$	
Physical Education 1a, 1b, 1c ----- 4 -----	1	1	1
	<hr/> 16 $\frac{1}{2}$	<hr/> 17 $\frac{1}{2}$	<hr/> 17

Sophomore Year

Survey of American Literature, English 6a, 6b, 6c or Survey of English Literature, English 7a, 7b 7c -----	2	2	2
Zoology and Physiology, 1a, 1b, 9 -----	3	3	3
Organic Chemistry, Chemistry 2 -----	5		
Chemistry of Nutrition, Chemistry 6 -----		4	
General Bacteriology, Bacteriology 1 -----	4		
Food Preparation, Home Economics 2a, 2b -----		4	3
Dressmaking, Home Economics 11 -----			4
Extempore Speaking, English 20a, 20b, 20c -----	1	1	1
Physical Education 2a, 2b, 2c -----	1	1	1
Art Appreciation, Art 6a, 6b, 6c -----	$\frac{2}{3}$	$\frac{2}{3}$	$\frac{2}{3}$
Design and Composition, Art 3a, or Applied Design, Art 4 -----	1 $\frac{1}{3}$		
House Decoration, Art 3b -----		1 $\frac{1}{3}$	
Costume Design, Art 3c or Applied Design, Art 4 -----			1 $\frac{1}{3}$
	<hr/> 18	<hr/> 17	<hr/> 16

GENERAL GROUP

Junior Year

	Fall	Winter	Spring
Elementary Educational Psychology, Education 32		4	
Dietetics, Home Economics 5a, 5b -----		4	4
Dressmaking, Home Economics, 12 -----	3		
Physiological Chemistry, Chemistry 14 -----			4
Household Management, Home Economics 15a--	3		
Modern History, History 1a, 1b, 1c -----	3	3	3
Elective -----	8	6	6
	17	17	17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Rural Sociology, History 32 -----			4
Home Equipment, Home Economics 15b, 15c ---		3	3
Millinery, Home Economics 14a -----		4	
*Practice Cottage, Home Economics 16 -----	6		
Elective in Home Economics -----		4	
Demonstration work in Home Economics, Home Economics 7 -----			4
Elective -----	7	2	6
	17	17	17

CLOTHING AND MILLINERY GROUP

Junior Year

	Fall	Winter	Spring
Elementary Educational Psychology, Education 32		4	
Physiological Chemistry, Chemistry 14 -----			4
Dressmaking, Home Economics 12 -----	3		
Dietetics, Home Economics 5a, 5b -----		4	4
Modern History, History 1a, 1b, 1c -----	3	3	3
Household Management, Home Economics 15a --	3		
Elective -----	8	6	6
	17	17	17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Home Equipment, Home Economics 15b, 15c -----		3	3
Millinery, Home Economics 14a -----		4	
*Practice Cottage, Home Economics 16 -----	6		
Elective in Clothing -----			3 or 4
Elective -----	7	6	11 or 10
	17	17	17

FOOD AND DIETETICS GROUP

Junior Year

	Fall	Winter	Spring
Elementary Educational Psychology, Education 1		4	
Drafting and Dressmaking, Home Economics 12	3		
Dietetics, Home Economics 5a, 5b -----		4	4
Modern History, History 1a, 1b, 1c -----	3	3	3
Physiological Chemistry, Chemistry 14 -----			4
Household Management, Home Economics 15 ---	3		
Elective -----	8	6	6
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Home Equipment, Home Economics 15b, 15c ---		3	3
Institutional Management, Home Economics 17			5
*Practice Cottage, Home Economics 16 -----	6		
Demonstration work in Home Economics, Home Economics 7 -----			4
Elective -----	7	10	5
	<hr/> 17	<hr/> 17	<hr/> 17

HOME ECONOMICS EDUCATION GROUP

Junior Year

	Fall	Winter	Spring
Principles of Education, Education 31 -----	4		
Elementary Educational Psychology, Education 32		4	
Principles and Methods of teaching in High School, Education 33 -----			4
Physiological Chemistry, Chemistry 14 -----			4
Dietetics, Home Economics 5a, 5b -----		4	4
Dressmaking, Home Economics 12 -----	3		
Modern History, History 1a, 1b, 1c -----	3	3	3
Household Management, Home Economics 15a --	3		
*Elective -----	4	6	2
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Home Equipment, Home Economics 15b, 15c ---		3	3

	Fall	Winter	Spring
**Practice Teaching, Education 9			
Home Economics Elective -----			4
Special Methods Teaching Home Economics, Education 7a, 7b -----	3	3	
Demonstration Work in Home Economics, Home Economics 7 -----			4
Millinery, Home Economics 14a, 14b -----		4	4
**Practice Cottage, Home Economics 16			
*Elective -----	10	3	2
	<hr/> 17	<hr/> 17	<hr/> 17

*To comply with the requirement for the Smith-Hughes certificate in Home Economics, a subject in Education must be elected some time during the course.

**Practice Teaching, 3 credits, must be taken some time during the senior year.
Practice Cottage, 6 credits, must be taken some time during the junior or senior year.

THE FOUR YEARS COURSE IN COMMERCIAL SCIENCE

This course is designed for those who wish to pursue a full college course and at the same time specialize in business subjects. It prepares for business administration or commercial teaching. A one year vocational course is offered for those who must enter business with less preparation than a full college course. See index for reference to this course.

Upon the completion of the prescribed work of the four years course together with enough elective work to make 204 credits, together with 204 grade points, the student may receive the degree of Bachelor of Science in Commerce. A certificate will be given to those who complete the one year course.

Commercial Science

Freshman Year

	Fall	Winter	Spring
Accounting I, Commerce 1a, 1b, 1c, -----	3	3	3
Rhetoric, English 1a, 1b, 1c -----	3	3	3
Business Law, Commerce 2a, 2b -----	3	3	
Business Organizations, Commerce 3 -----			3
Military Drill (Men), Military 1a, 1b, 1c -----	1½	1½	1½
*Physical Training and Hygiene -----	¾	¾	¾
Elective -----	7	7	7
	<hr/> 18	<hr/> 18	<hr/> 18

	Fall	Winter	Spring
The following are recommended as electives in the freshman year:			
Mathematics, 1a, 1b, 1c -----	3	3	3
Chemistry 1a, 1b, 1c -----	3	3	3
Spanish, 1a, 1b, 1c -----			
or			
French, 1a, 1b, 1c -----	3	3	3
History, 2a, 2b, 2c -----	3	3	3
Typewriting, 6a, 6b, 6c -----	1½	1½	1½
Office Style and Proofreading, Printing 4 -----			2

Sophomore Year

Stenography, Commerce 5a, 6a; 5b, 6b; 5c, 6c			
or			
Accounting II, Commerce 9a, 9b, 9c -----	7	7	7
Survey of English Literature, English 7a, 7b, 7c			
or			
Survey of American Literature, English 6a, 6b, 6c	2	2	2
Extempore Speaking, English 20a, 20b, 20c ----	1	1	1
Industrial History of the U. S., History 3a, 3b --		3	3
*Military Drill (Men), Military 2a, 2b, 2c -----	1½	1½	1½
Elective -----	6	3	3
	<hr/> 17½	<hr/> 17½	<hr/> 17½

The following are recommended as electives in the sophomore year:

Mathematics 10 (following Math. 1) -----	5		
Spanish 2a, 2b, 2c			
or			
French 2a, 2b, 2c -----	3	3	3
Typewriting, Commerce 6a, 6b, 6c -----	1½	1½	1½

Junior Year

American Government, History 11a, 11b -----	4	4	
Political Parties, History 12 -----			4
Elementary Educational Psychology, Education 31		4	
Electives in Education -----	4		4
**Money and Banking, Commerce 3			
or			
Salesmanship, Commerce 11 -----		3	
Investments, Commerce 12			
or			
Advertising, Commerce 10 -----			3
Elective -----	9	6	6
	<hr/> 17	<hr/> 17	<hr/> 17

	Fall	Winter	Spring
Senior Year			
Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Agricultural Economics, Farm Economics 1 ----			4
Rural Sociology, History 32 -----			4
Salesmanship, Commerce 11 -----	5		
**Money and Banking, Commerce 3			
or			
Salesmanship, Commerce 11 -----		3	
Investments, Commerce 12			
or			
Advertising, Commerce 10 -----			3
Elective -----	8	10	6
	<hr/>	<hr/>	<hr/>
	17	17	17

Electives for junior and senior years:

A considerable amount of the student's time in the junior and senior years is available for free election from courses in other departments of the College. This gives the student an opportunity to broaden his outlook into fields not covered by the requirements of his course.

*Women students are required to take Physical Training 1 credit each term during the freshman and sophomore years, and Freshman Lectures $\frac{1}{2}$ credit in each of the fall and winter terms of the freshman year.

**Salesmanship and Investments will be given in 1923-4, Money and Banking and Investments in 1924-5.

THE PHARMACY COURSES

Three plans of study are offered by the School of Pharmacy as indicated below. Upon the completion of the work of the first two years with 98 grade points, the student may receive the degree of Pharmacy Graduate. After completing the work of the first three years with 150 grade points, the degree of Pharmaceutical Chemist may be received. Upon completing the additional prescribed work of the four years course with sufficient elective work to make 204 term credits together with 204 grade points the student may receive the degree of Bachelor of Science in Pharmacy.

Note—Beginning with the fall term of 1924 the School of Pharmacy will offer only the three and four years courses in Pharmacy. The above measure is in conformity to the action taken by the American Conference of Pharmaceutical Faculties at its annual meeting held in Washington, D. C., May 10th, 1920.

The new course will afford an opportunity for the addition of subjects such as business English, business law, typewriting, sign writing, and window display. More time will also be given to practical pharmacy and dispensing.

The following subjects comprise the three years course:

Inorganic chemistry, organic chemistry, pharmaceutical Latin, pharmacognosy, pharmaceutical botany, materia medica, pharmacy, dispensing, pharmaceutical jurisprudence, drug assaying, bacteriology, physiology, hygiene, business law, business English, military science, sign writing, typewriting and window display. Military science is required during the first two years for men. Physical training is also required of all women students for the same period of time.

Fourteen hours of electives from the regular college courses during the junior year may be chosen under the direction of the head of the School of Pharmacy.

The Two Years Plan of Study

This course is designed to acquaint the student with the terms, practice and ethics of modern pharmacy. It complies with both the state and national requirements and fully prepares the applicant for the state examination.

The Three Years Plan of Study

This course has been especially outlined to meet the ever increasing demands for more widely trained men not only in the "Art of Compounding," but in the analysis and synthesis of pharmaceuticals, as well as to give the student proper foundations for research problems.

The Four Years Plan of Study

The four years plan of study is a continuation of the three years course and leads to the degree of Bachelor of Science in Pharmacy. It is especially adapted to the student who wishes to become a teacher of pharmacy or to pursue work for the more advanced degrees.

Regulations of the State Board of Pharmacy

Among the regulations of the South Dakota State Board of Pharmacy is the following:

"Hereafter and during the year 1906, all applicants appearing for registration by examination must present with their application an affidavit showing that they have completed a course of study (or its equivalent) of one year high school work. In 1907, two years; in 1908, three years, and in 1909 the presentation of a high school diploma will be required. These requirements were recommended by the Association in annual meeting at Canton in 1903. It is therefore expedient that all proprietors doing a drug business in this state acquaint their clerks and apprentices with the above rule."

Further recommendations were made by the State Board at a meeting held in Sioux Falls, in January, 1918, which are in substance: "That it shall be deemed expedient for all applicants appearing before the State Board for registration to have had two years of practical experience in a drug store where prescriptions are regularly compounded, together with the Ph. G. degree from a reputable school of pharmacy, or one year of experience and the Ph. C. degree, before said applicant should appear for examination."

In order to harmonize our work with this regulation we require the completion of four years of high school work or its equivalent. While this is a much higher requirement than most schools demand, the results have justified our judgment, for at present there are but three of our graduates who have taken the state examination who are not registered.

This line of work offers many inducements to young men. The requests of the druggists of the state for our graduates are far in excess of the supply and the pure food and drug laws have opened up a new field for young men who are competent drug and food assayists.

For a detailed description of the subjects offered and information relative to the equipment of the Department of Pharmacy see the description of the department.

Below is given a brief outline of the subjects and the credits required for each of the four years.

Pharmacy Course

Freshman Year

	Fall	Winter	Spring
Inorganic Chemistry, Chemistry 1a, 1b, 1c -----	3	3	3
Pharmaceutical Latin, Pharmacy 1a, 1b -----	2	2	
Pharmaceutical Botany, Pharmacy 3 -----	5		
Accounting, Commerce 8 -----	2		
Pharmacy Physiology, Zoology 10a, 10b, -----	4	3	
Theoretical Pharmacy, Pharmacy 5a, 5b -----		4	3
Practical Pharmacy, Pharmacy 6 -----			3
Pharmacognosy, Pharmacy 4a, 4b -----		4	4
Chemical Problems, Chemistry 5 -----			3
*Military Drill (Men), Military 1a, 1b, 1c -----	1½	1½	1½
Physical Training and Hygiene (Men) -----	¾	¾	¾
	18	18	18

Sophomore Year

Materia Medica, Pharmacy 2a, 2b, 2c -----	5	5	5
Theoretical Pharmacy, Pharmacy 7 -----	4		
Organic Chemistry, Chemistry 2a, 2b, -----		4	4
General Bacteriology, Bacteriology 1 -----	4		
Dispensing, Pharmacy 9a, 9b, -----		4	
Practical Pharmacy, Pharmacy 8 -----	4		
Drug Assaying, Pharmacy 11a, 11b -----		4	4
Prescription Practice, Pharmacy 10 -----			4
Military 2a, 2b, 2c -----	1½	1½	1½
	18½	18½	18½

Junior Year

	Fall	Winter	Spring
Rhetoric, English 1a, 1b, 1c -----	3	3	3
Advanced Organic Chemistry, Chemistry 7a, 7b, 7c -----	4	4	4
Urine Analysis, Pharmacy 12 -----	4		
Toxicology, Pharmacy 13a, 13b -----		4	4
Elective -----	6	6	6
	17	17	17

Senior Year

Survey of American Literature, English 6a, 6b, 6c -----			
or			
Survey of English Literature 7a, 7b, 7c -----	2	2	2

*Women students are required to take Physical Training 1 credit each term during the freshman and sophomore years and Freshman Lectures ½ credit in each of the fall and winter terms of the freshman year.

	Fall	Winter	Spring
Modern History, History 1a, 1b, 1c -----	3	3	3
Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Elective -----	8	8	12
	<hr/> 17	<hr/> 17	<hr/> 17

THE FOUR YEARS COURSE IN GENERAL SCIENCE

The four years course in general science affords a good general education and allows specialization either in the biological sciences or in mathematics and physical science. The entrance requirements are the same as those of the other courses leading to degrees. (See entrance requirements.)

The requirements for graduation in this course are 204 credits, including freshman hygiene, the military drill required of all men and the physical training required of all women during the freshman and sophomore years, with 204 grade points.

These credits are distributed as follows:

Requirements in General Science:

1. In science 59 credits are required. Among these are elementary chemistry 9 credits, mathematical analysis 9 credits (those who have had three semesters of algebra may take college algebra followed by trigonometry and analytics or surveying), physics 9 credits, botany or zoology with physiology 9 credits, geology 5 credits, a total of 41 credits. The remaining 18 credits may be selected from any science subject which the student is fitted to pursue.

2. In language, history, and kindred subjects, the student must have 77 credits. Among these are English 15 credits, public speaking 3 credits, history 9 credits, economics 4 credits and psychology 4 credits. In addition 18 credits must be chosen from English, or from history, economics, and sociology, or from foreign languages. The remaining 24 may be made from education or from further work in the fields already mentioned.

3. Men students of the freshman year are required to take military drill 4 credits, and physical training 1 credit; men

students of the sophomore year are required to take military drill 4 credits.

4. Women students are obliged to take physical training 6 credits and freshman lectures 1 credit.

The work of the freshman and sophomore years is outlined as follows:

General Science

Freshman Year

	Fall	Winter	Spring
Inorganic Chemistry 1a, 1b, 1c -----	3	3	3
Rhetoric, English 1a, 1b, 1c -----	3	3	3
*General Mathematics, Mathematics 1a, 1b, 1c --	3	3	3
General Botany, Botany 1a, 1b, 1c or			
General Zoology and Physiology Zoology 1a, 1b, and 7 -----	3	3	3
Foreign Language or			
English History, History 2a, 2b, 2c -----	3	3	3
Military Drill, Military 1a, 1b, 1c -----	1½	1½	1½
Physical Training and Hygiene -----	2½	2½	2½
	<hr/> 17	<hr/> 17	<hr/> 17

Sophomore Year

Survey of English Literature, English 6a, 6b, 6c or			
Survey of American Literature, English 7a, 7b, 7c	2	2	2
Public Speaking, English 20a, 20b, 20c -----	1	1	1
College Physics, Physics 2a, 2b, 2c or			
General Physics, Physics 1a, 1b, 1c -----	3, 4	3, 4	3, 4
Military Drill, Military 2a, 2b, 2c -----	1½	1½	1½

And one of the following groups:

I. Organic Chemistry, followed by Quantitative Analysis and Volumetric Analysis or by Industrial History.

Electives to make 17 to 19 credits; Modern History or Botany or Zoology should be chosen, if possible.

II. Calculus ----- 5 5

*Or, College Algebra, Trigonometry and Analytic Geometry or Surveying.

*Women students are required to take Physical Training 1 credit each term during the freshman and sophomore years and Freshman Lectures ½ credit in each of the fall and winter terms of the freshman year.

	Fall	Winter	Spring
Anal. Mech. -----			5
or			
Bacteriology -----			4
Electives to make 17 to 19 credits.			
III. History, English			
or			
Modern History -----	3	3	3
Electives to make 17 to 19 credits.			

Botany or Zoology should be chosen, if possible.

Credits to the amount of one or two hours a term, where needed to make out a schedule, may be chosen from the following:

Applied design

Woodwork

Art appreciation 1 credit

General literature 2 credits

General horticulture 2 credits

Charcoal drawing

In the junior and senior years are required geology, 5 credits, economics 4 credits, and psychology 4 credits. The remaining subjects, to make up 204 credits, are to be chosen so as to satisfy the general requirements set down above.

THE FOUR YEARS COURSE IN PRINTING

The College offers a four years course in Printing, leading to the degree of Bachelor of Science in Printing. The purpose of this course is to train young men for executive positions in the printing profession. This phase of instruction has found favor among master printers, who have seen in it the opportunity to give their sons a liberal arts education, a thorough acquaintance with business subjects, and a printing training unobtainable elsewhere under similar conditions.

The course as outlined requires 204 term credits, together with an equal number of grade points. Forty-five of these credits are in the Department of Printing. During the course the student must earn 14 additional credits by doing continuous full-time work in the Department of Printing or a commercial printing plant approved by the Director of the School of Printing in order to receive the degree of Bachelor of Science in printing.

The demand for compositors, composing machine operators and pressmen has for many years exceeded the supply. To meet this demand, short courses are offered each term. These courses are for those that have had experience in printing and wish to get a better working knowledge of some special branch of printing. Short courses are also offered to those students in the college who expect to enter some other business than printing. The object of these courses is to teach the value of printing in business, how to buy good printing, and something of the cost and methods of figuring cost in printing plants.

Printing Course

Freshman Year

	Fall	Winter	Spring
Rhetoric, English 1a, 1b, 1c -----	3	3	3
Inorganic Chemistry, Chemistry 1a, 1b, 1c -----	3	3	3
General Mathematics, Mathematics 1a, 1b, 1c ---	3	3	3
Freehand Drawing, Art -----	2	2	2
Military Drill, Military 1a, 1b, 1c -----	1 $\frac{1}{3}$	1 $\frac{1}{3}$	1 $\frac{1}{3}$
Physical Training and Hygiene -----	$\frac{2}{3}$	$\frac{2}{3}$	$\frac{2}{3}$
Principles of Typography, Printing 1a, 1b, 1c, ---	3	2	2
History of Printing, Printing 2 -----		2	
Ad Composition, Printing 3a -----			2
Office Style and Proof Reading, Printing 4 ----			2
	16	17	19

Sophomore Year

Survey of English Literature, English 6a, 6b, 6c or			
Survey of American Literature, English 7a, 7b, 7c	2	2	2
Extempore Speaking, English 20a, 20b, 20c -----	1	1	1
General Physics, Physics 1a, 1b, 1c -----	4	4	4
Machine Shop, Mechanical Engineering -----		4	
Military Drill, Military 2a, 2b, 2c -----	1 $\frac{1}{3}$	1 $\frac{1}{3}$	1 $\frac{1}{3}$
Ad Composition, Printing 3b -----	3 $\frac{2}{3}$		
Job Composition, Printing 5 -----		3 $\frac{2}{3}$	
Platen Press Work, Printing 6a -----			3 $\frac{2}{3}$
**Elective -----	5	1	5
	17	17	17

**Electives should include a course in biology (botany or zoology) at some time during the course.

Junior Year

	Fall	Winter	Spring
General Psychology, Education 32 -----		4	
Industrial History, History 3a, 3b -----		3	3
Newswriting, Agricultural Journalism 1 -----	2		
Feature Story Writing, Ag. Journalism 2 -----	2		2
Advertising, Commerce 11 -----			3
*Modern Language, French 1a, 1b, 1c or			
Spanish 1a, 1b, 1c -----	3	3	3
Business Law, Commerce 2 -----	3		
Composing Machine, Printing 7a, 7b, 7c -----	3	3	3
Platen Press Work, Printing 6b -----	2		
Cylinder Press Work, Printing 8a, 8b -----		2	2
Elective -----	2	2	1
	<hr/> 17	<hr/> 17	<hr/> 17

Senior Year

Economics, History 21 -----	4		
Sociology, History 31 -----		4	
Comparative Government, History 13 -----			4
Accounting, Commerce 1a -----	3		
Typewriting, Commerce 6a, 6b -----		3	
Salesmanship, Commerce 5 -----	3		
*Modern Language, French 2a, 2b, 2c or			
Spanish 2a, 2b, 2c -----	3	3	3
Cost and Systems, Printing 9 -----	2		
Fine Printing, Printing 10 -----	2		
Shop Organization and Management, Printing 11a, 11b -----		4	4
Elective -----		3	6
	<hr/> 17	<hr/> 17	<hr/> 17

*Students who have had two years of Latin or of a modern language in the high school may substitute an elective for a modern language here.

Description of Work

Groups of Collegiate Subjects

For convenience in securing balance in schedules the subjects of college grade are arranged in five groups:

1. Here belong the vocational and technical subjects offered in the departments of Agricultural Journalism, Agronomy, Animal Husbandry, Art, Civil Engineering, Commerce, Dairy Husbandry, Education, Electrical Engineering, Entomology, Home Economics, Horticulture, Industrial Art, Mechanical Engineering, Military Science, Pharmacy, Printing, Poultry Husbandry, and Veterinary Medicine.

2. The biological sciences, including most of the work offered by the departments of Botany, Zoology and Entomology.

3. The mathematical and physical sciences, including the work of the departments of Chemistry, Mathematics, Physics, and a few other subjects.

4. Languages and the social sciences, including the subjects offered by the departments of Education, English, History and Political Science, and Foreign Languages.

5. The fine Arts, including music, charcoal drawing and painting.

Rules Governing Electives

Except where otherwise indicated, it is understood that the electives of any collegiate plan of study may be selected from the work of any collegiate department with the following general restrictions:

If a student begins a subject which is continued during the following term or terms, he should complete the subject.

Not less than one year of foreign languages will be credited towards a degree unless the student presents credit for one year of the same language studied elsewhere.

The amount of credit in music, the fine arts, and several other lines that may be counted towards a degree in courses that permit elective work is naturally limited. Such work is designated in the departmental descriptions as "limited credit" subjects and include:

(1) Music, with the exception of history of music, public school music, theory of music and harmony.

(2) The fine arts, including painting, charcoal drawing and handicraft.

(3) Forging, carpentry, typewriting, printing and other subjects that are concerned largely with training the hand. However, in case a student desires to become proficient in some one of these lines of study with the view of teaching the subject, special concessions may be made to him by the classification committee.

(4) College credit received for intercollegiate debating and oratory, editorial work on student publications, and in other activities outside regular classes.

In general not more than ten credits in "limited credit" subjects may be counted towards a degree, and unless prescribed in the scheme of study not more than three may be counted in any one year.

Laboratory Fees and Breakage Deposits

Following is a list of laboratory fees and deposits for collegiate subjects. For laboratory fees in connection with Music, the School of Agriculture, Printing, Tractor and Auto Mechanics, and other special courses, see descriptions of these departments.

			Lab. Fee	Deposit
Agronomy				
Grain and Root Crops,	3 cr.,	w, s	\$1.00	
Soils,	4 cr.,	f, w, s	2.00	\$2.00
Adv. Soil Fertility,	4 cr.,	f, w or s	2.00	2.00
Adv. Soil Physics,	4 cr.,	f, w, or s	2.00	2.00
Geology,	5 cr.,	f	1.00	
Meteorology,	4 cr.,	w	1.00	
Animal Husbandry				
Stock Judging,	2 cr.,	f, w, s	1.00	
Adv. Stock Judging,	3 cr.,	f	1.50	
Horse Production,	3 cr.,	w	1.00	
Swine Production,	3 cr.,	w	1.00	
Beef Cattle Production,	3 cr.,	s	1.00	
Sheep Production,	3 cr.,	f	1.00	
Art				
Charcoal Drawing,	1 or 2 cr.,	f, w, or s	.50	
Design,	2 cr.,	f, w, s	.50	
Design and Composition,	1½ cr.,	f	.50	
House Decoration,	1½ cr.,	w	.50	
Costume Design,	1½ cr.,	s	.50	
Handicraft,	1 or 2 cr.,	f, w, or s	.50	
Bacteriology,	4 cr.,	f, w, or s	5.00	
Botany				
Agr. Botany,	3 cr.,	f, w, s	2.00	
Gen. Botany,	3 cr.,	f, w, s	2.00	
Plant Physiology,	3 cr.,	s	3.00	
Plant Diseases,	3 cr.,	w	2.00	
Plant Histology,	4 cr.,	w	4.00	
Adv. Botany and Research,			1.00	per cr.
Chemistry				
Inorganic Chemistry,	3 cr.,	f, w	3.00	2.00
Inorganic Qual. Analysis,	3 cr.,	s	4.00	2.00
El. Organic Chemistry,	5 cr.,	f	5.00	2.00
Quant. Analysis,	3 cr.,	w	3.50	2.00
Volumetric Analysis,	3 cr.,	s	2.00	2.00
Chemistry of Foods and Nutrition,	4 cr.,	s	3.50	2.00
Adv. Organic Chemistry,	5 cr.,	f, w, s	5.00	2.00
Prox. Organic Analysis,	3 cr.,	w	3.50	2.00
Water Analysis,	3 cr.,	s	4.00	2.00
Agr. Chemistry,	4 cr.,	f	2.00	2.00
Physical Chemistry,	5 cr.,		5.00	2.00
Physiological Chemistry,	5 cr.,	f	5.00	2.00
Technical Analysis,	4 cr.,	s	5.00	2.00
Adv. Qual. Analysis,	4 cr.,		3.00	2.00
Thesis, fee dependent upon work assigned.	cr.,	s	2.00	
Civil Engineering				
Plane Surveying,	3 cr.,	s	2.00	

Topographical Surveying,	3 cr.,	f	2.00	
Railroad Surveying,	3 cr.,	w	1.00	
Railroad Surveying,	2 cr.,	s	2.00	
Commerce				
Typewriting,	3 cr.,	f, w, or s	2.00	
Dairy Husbandry,				
Farm Dairying,	3 cr.,	f, s	1.00	
Dairy Inspection,	5 cr.,	f	2.00	
Dairy Bacteriology,	5 cr.,	f	2.00	
Manuf. of Butter,	5 cr.,	s	2.00	
Manuf. of Cheese,	5 cr.,	f	2.00	
Dairy Technology,	5 cr.,	f	2.00	
Adv. Insp. Dairy Prod.	4 cr.,	w	2.00	
Adv. Dairy Bacteriology,	4 cr.,	s	2.00	
Electrical Engineering				
Electrical Machinery,	5 cr.,	f	2.00	
Electricity and Magnetism,	5 cr.,	f	2.00	
Direct Cur. Dynamos and Motors,	5 cr.,	w	2.00	
Alternating Current Electricity,	5 cr.,	s	2.00	
Adv. Alt. Currents,	5 cr.,	f	2.00	
Electric Lighting,	5 cr.,	w	2.00	
Electric Transmission and Power,	4 cr.,	s	2.00	
Home Economics				
Food Preparation and Marketing,	4 cr.,	f, w	3.00	
Food Preparation,	4 cr.,	f, w	3.00	
Dietetics,	4 cr.,	w, s	3.00	
Special Cookery Problems,	4 cr.,	f	3.00	
Demonstration Cookery,	4 cr.,	s	3.00	
Home Nursing,	3 cr.,	s	.50	
Elementary Sewing,	3 cr.,	f, w	.50	
Textiles and Laundry,	4 cr.,	w, s	2.00	
Dressmaking,	4 cr.,	s	.50	
Drafting and Dressmaking,	3 cr.,	f	.50	
Modeling and Adv. Dressmaking,	4 cr.,	s	1.50	
Millinery,	4 cr.,	w, s	1.00	
Household Management,	3 cr.,	f	1.00	
Institutional Management,	5 cr.,	s	2.00	
Industrial Art				
Cabinet Making,	2 cr.,	f, w	.75	per cr.
Wood Turning,	2 cr.,	s	.75	per cr.
Furniture Design,	2 cr.,	s	.75	per cr.
Carpentry,	2 cr.,	s	.75	per cr.
Mechanical Engineering				
Forging, any term,		f, w, or s	.75	per cr.
Machine Shop,	3 cr.,	f, w	.75	per cr.
Engineering Laboratory,	2 cr.,	f, w, s	2.00	
Pharmacy				
Pharmaceutical Botany,	5 cr.,	f	2.00	2.00
Pharmacognosy,	4 cr.,	w, s	2.00	2.00

Prac. Pharmacy,	2 cr.,	s	2.00	2.00
Prac. Pharmacy,	3 cr.,	f	5.00	2.00
Dispensing,	4 cr.,	f, w, s	5.00	2.00
Drug Assaying,	4 cr.,	w, s	2.00	2.00
Toxicology,	4 cr.,	w, s	2.00	2.00
Urine Analysis,	4 cr.,	f	2.00	2.00
Physics				
General Physics,	4 cr.,	f, w, s	2.00	
College Physics,	3 cr.,	f, w, s	2.00	
Adv. Physics,	5 cr.,	f	2.00	
Heat,	5 cr.,	w	2.00	
Light,	5 cr.,	s	2.00	
Zoology and Entomology,				
General Zoology,	3 cr.,	f, w	2.00	
Pharmacy Physiology,	4 cr.,	f; 3 cr., w	2.00	
Vertebrate Histology,	4 cr.,	f, w	2.00	
Vertebrate Entomology,	3 cr.,	s	3.00	
Entomology,	3 cr.,	w, s	1.50	
Orchard Entomology,	3 cr.,	s	1.00	
Garden Entomology,	3 cr.,	f	1.00	
Field Crops Entomology,	3 cr.,	s	1.00	
Bee Keeping,	3 cr.,	f	2.00	

Collegiate Departments of Instruction

The following departments offer collegiate work which may be applied towards the various degrees.

Agricultural Journalism	History and Political Science
Agronomy	Home Economics
Animal Husbandry	Horticulture and Forestry
Art	Industrial Art
Botany and Plant Diseases	Mathematics
Chemistry	Mechanical Engineering
Civil Engineering	Military Science
Commerce	Music
Dairy Husbandry	Pharmacy
Education	Physics
Electrical Engineering	Physical Education
English	Poultry Husbandry
Farm Economics	Printing
Foreign Languages	Veterinary Medicine
	Zoology and Entomology

The description of the work offered by these departments may be found in the Annual Catalog issued by the College.

AGRICULTURAL JOURNALISM

MR. KIESER, MRS. HOWARD

The following courses are designed to assist those who become public servants as teachers, county agents, home demonstration leaders and other specialists along agricultural lines, and who by the nature of their work will be expected to prepare news items and articles for publication. The requirements of the rural press are kept especially in mind.

h1 **News Writing** (2, 0, 4) 2 credits Fall term
Methods of gathering news; the writing of news; news values. Practice in preparing news stories and special articles.

h3 **Feature Story Writing** (2, 0, 4) 2 credits Spring term
Particular emphasis is placed on methods of popularizing scientific and technical material. Text: Bleyer's How to Write Special Feature Articles.

AGRONOMY

PROFESSOR HUME, ASSOCIATE PROFESSOR HUTTON, ASSOCIATE PROFESSOR EVANS, ASSISTANT PROFESSOR BUSH-
EY, MR. FOWLDS.

The Agronomy Department is the department of soils and crops. To help students apply the principles of science to crop production on the farms of South Dakota is the essential purpose of the courses offered.

What is soil in South Dakota, or on some farm within the state? The student may learn to outline soil areas, to analyze soils, to observe field experiments, and answer the question for himself.

What crops will grow in South Dakota soil areas, and how may the growing of them be made most profitable to the man who does the work? A study of the results of experiments will answer the questions for the student. It is attempted to give the student in agronomy that accurate knowledge of conditions which is necessary to success in farming.

The courses offered are fundamental, practical, scientific. They are designed for South Dakota farmers. They may be pursued with profit by prospective teachers of agriculture, or experiment station workers.

- 1a, 1b **Grain and Root Crops** (1, 4, 4) 3 credits Winter term
 (2, 4, 3) 3 credits Spring term

Production and marketing of the common field crops, including barley, corn, flax, oats, potatoes, rye, and wheat. Classification, grading and judging of seed. Open to all college students. Required of all agricultural students. One recitation and four hours of laboratory work a week, winter term; two recitations and four hours of laboratory work a week, spring term. All students will be required to make practical exhibits of grain. Mr. Evans.

Laboratory fee, \$1.00 each term.

- h* 2a, 2b **Crop Breeding** (2, 2, 5) 3 credits Winter term
 (2, 2, 5) 3 credits Spring term

Principles of cropping with emphasis upon improvements by selection and breeding; dealing chiefly with principal field crops of South Dakota—corn, wheat, oats, barley, potatoes, alfalfa. In addition to text book references, such magazines as the Journal of Agronomy, Science, the Journal of Heredity. Students may be requested to subscribe for at least one such magazine. Text: Breeding of Crop Plants, Hayes and Garber. Prerequisite, two years of college work. Required of all agronomy students. Two recitations and one two-hour seminar a week. Mr. Hume.

- 3 **Field Management** (1, 4, 4) 3 credits Winter term

Arrangement and management of crop rotations with special reference to cost and profit under South Dakota conditions. Prerequisite, Agronomy 1a, 1b. One recitation and four hours of laboratory work a week. Mr. Evans.

- 4 **Forage Crops** (1, 4, 4) 3 credits Spring term

Production and marketing of forage; including meadow and pasture grasses, millets, prosos, sorghums, clovers, field peas, field beans. Open to all college students. Required of all agronomy students. One recitation and four hours of laboratory work a week. Mr. Evans.

- 5 **Seed Inspection** (0, 4, 5) 3 credits Fall term

Seed testing, seed impurities and methods of eradication of weeds from farm crops and seeds; characteristics of crop impurities from the standpoint of eradication, as quack grass, Canadian thistle, wild oats. Open to all college students. Required of all agronomy students. Four hours of laboratory work a week. Mr. Fowlds.

- h* 6 **Crop Inspection** 3 credits Fall term

Advanced judging; examination of the several varieties of cereals, root and forage crops, with special reference to resistance to adverse weather conditions and diseases. Examination of crops in the field, experiment plots and prepared specimens. Prerequisite, Agronomy 1a, 2b. Mr. Evans.

- h* 7a, 7b **Field Crops** 3 credits Winter term
 3 credits Spring term

Special problems for advanced students who may become interested in a particular line of investigation, in relation to cereal or forage crops; production or growth of crops; crop improvement; study of previous experiments; original work in greenhouse or field. Students may be

required to submit a final report or thesis. Time to be arranged. Mr. Hume; Mr. Evans.

8 **Experiment Field Observation** 3 to 6 credits Summer

A course open to all students who work under the direction of the Agronomy Department on one of the experiment farms or on some other approved project. Assisting in laying out plots, taking field notes, cultivating, harvesting, threshing. May make a collection of crops, weeds and grasses. Will keep a notebook and receive credit on basis of work, and examination by the Agronomy Department.

h 9a, 9b, 9c **Soils** (2, 6, 4) 4 credits Each term

The first half of the year is devoted to Soil Physics and Management. The origin and development of the soil under different climatic conditions; classification of soils upon several bases; texture, porosity, specific gravity, plasticity, capillarity, granulation of soils; the soil as a reservoir for water; the movement and control of soil water; irrigation and drainage; the alkali problem; aeration of the soil and its relation to soil texture and plant growth; soil temperature; the physical effect of manures upon the soil; erosion by wind and running water—blowing and washing—and their control; the practical application of the foregoing to methods of tillage; crop rotation and the application of green and farm manures in the management of different types of soil. The laboratory work includes a careful study of physical properties of the soil through observation and practice; soils are also studied under field and green-house conditions.

The second half of the year is devoted to Soil Fertility. The relation of the fertility content of the soil to crop yields; effect of supplying various elements of fertility; effects of different rotations and systems of farming in relation to permanent agriculture; farming systems adapted to South Dakota conditions. The laboratory work includes the analysis of manures and fertilizers and the determination of their agricultural and commercial values; the analysis of various farm products and the analysis of a soil, preferably from the student's home farm, to determine fertility content. These analyses serve as a basis for devising a system of permanent agriculture for the student's home farm. Prerequisite, Agronomy 1a, 1b, Elementary Physics, Organic, Inorganic, and Quantitative Chemistry. Required of all agricultural students. Two recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee, \$2.00, deposit \$2.00 each term.

h 10 **Advanced Soil Physics** (2, 6, 4) 4 credits Any term

Designed for students who wish to continue the work in Soil Physics begun in Agronomy 9a. A study in the field of the effects of disking, harrowing, rolling, subsoiling, frequency and depth of cultivation with reference to conservation of soil moistures. The student may select a soil in which he is interested and make a complete physical analysis thereof; he may make a careful study of the movement of the water therein and its effect upon the growth of plants; he may choose a special irrigation or drainage problem in which he is interested; the results of the work are summarized in a final report or thesis. Students who elect this course are advised to signify their intention of so doing at the

end of the college year, so that materials may be collected during the summer, and observations recorded. Prerequisite, Agronomy 9c. Two recitations and six hours of laboratory work a week. Mr. Hutton; Mr. Bushey.

Laboratory fee, \$2.00, deposit \$2.00.

h 11 Advanced Soil Fertility (2, 6, 4) 4 credits Any term

A continuation of Agronomy 9c. The students may study in detail a special soil in which he is interested or pursue a special problem. The work may include pot culture work in the green-house; analysis of soil used in the pots; application of various fertility elements and their relation to the management of the soil; the study of the micro-organisms of the soil in relation to the preparation and availability of plant food, preparation of culture media, cultures from soil suspensions, preparation and study of a few cultures, ammonification, nitrification, nitrogen, fixation, legume bacteria and conditions favorable to their growth, inoculation; results of bacterial action determined by quantitative analysis; readings of bulletins, books, etc., and a preparation of a bibliography. The results of the study will be submitted in a final report or thesis. Prerequisite, Agronomy 9c. Two recitations and six hours of laboratory work a week. Mr. Hutton.

Laboratory fee, \$2.00, deposit \$2.00.

h 12 Irrigation and Drainage (3, 0, 6) 3 credits Any term

A consideration of the effects of the change in water content of soils through irrigation and drainage; the effect upon the physical condition of the soil and upon its productivity, special attention given to the problems of irrigation and drainage of reclaimed lands in South Dakota. Lectures, reading, field observations. Prerequisite, Agronomy 9c. Three recitations a week.

h 13 Soil Surveying (2, 0, 4) 2 credits Spring term

The object of this course is to familiarize students with the methods of determining soil types and constructing soil maps. The work in the recitation room is supplemented by actual work in the field. Designed for those students who may wish to take up soil survey work. Prerequisite, Agronomy 9b. Two recitations or field trips a week. Mr. Hutton and assistants.

h 14 Earth Science; Geology (3, 6, 6) 5 credits Spring term

A course in general geology with the greater emphasis placed upon the physical divisions of the subject. The geology of South Dakota in relation to soils, water supplies and mineral wealth is given special attention. Collections of rocks, minerals, typical fossils, physiographic and geologic models, lantern slides, charts and maps are available for laboratory work and reference. Prerequisite, junior standing. Three recitations and six hours of laboratory a week. Mr. Hutton.

Laboratory fee, \$1.00.

h 15 Earth Science; Meteorology (3, 3, 6) 4 credits Winter term

A practical course dealing with the laws controlling the movements of the atmosphere, the study of climatological and weather factors, with special attention to conditions in the United States; the climate and weather of South Dakota in relation to various economic interests,

weather maps, and forecasts. Prerequisite, junior standing. Three recitations and three hours of laboratory work a week. Mr. Hutton.

Laboratory fee, \$1.00.

h 16 Soils Seminar (1, 0, 2) 1 credit Any term

Discussion of important soil problems. Reviews of the literature and reports on investigations. Special attention given to those problems which concern the farms of South Dakota. Prerequisite, Agronomy 9c. One meeting a week. Mr. Hutton.

h 17 Soils Field Trip 3 credits By special arrangement only

An excursion to the representative soil areas of eastern and western South Dakota. This trip will be made by automobile, preferably before the opening of the fall term. About two weeks will be required for the trip. Credit will be given when a written report has been submitted. This report should be completed during the fall term. Prerequisite, Agronomy 9c. Mr. Hutton.

ANIMAL HUSBANDRY

PROFESSOR WILSON, ASSOCIATE PROFESSOR KUHLMAN, ASSOCIATE PROFESSOR GRINNELLS, MR. HELMREICH

It is generally admitted that livestock farming is the basis for an intensive agriculture and that it, as well as good farming, must be practiced if the fertility of the soil is to be maintained.

Work in this department aims to give the student a practical and scientific knowledge of animal husbandry. The herds and flocks include representatives of fifteen of the leading breeds of farm animals, which are used for class and demonstration purposes.

The following subjects are offered by this department:

1a, 1b Stock Judging (3, 3, 3 3 credits Fall term
(3, 3, 3) 3 credits Winter term

Study and practice in scoring and judging market types and classes of horses, cattle, sheep and swine; history, characteristics, and economic importance of the various breeds, and the judging of breeding classes. Three recitations and three laboratory hours per week. Mr. Wilson, Mr. Kuhlman, and Mr. Grinnells.

Laboratory fee \$1.00 each term.

2 Advanced Stock Judging (0, 6, 3) 3 credits Fall term

This course includes advanced work in judging market, breeding, and show animals of the various breeds of horses, cattle, sheep and swine. Prerequisite, Animal Husbandry 1a, 1b. Six hours of laboratory work per week. Mr. Kuhlman.

Laboratory fee, \$1.50.

h 3 Principles of Animal Breeding (3, 0, 6) 3 credits Winter term

This course deals with the laws of reproduction and development of animals and the study of the different systems employed in producing

both market and breeding animals. Prerequisite, Animal Husbandry 1 and 6 and Veterinary 6. Three recitations per week. Mr. Kuhlman.
h 4 Animal Nutrition (3, 0, 6) 3 credits • Fall term

This subject deals with the physical and chemical characteristics of the various feeding stuffs and their relation to practical feeding operations. Prerequisite, Animal Husbandry, 1a, 1b, Chemistry 1a, 1b, 1c. Three recitations per week. Mr. Grinnells.

6 Livestock Management (2, 0, 4) 2 credits Spring term

A study of practical methods and principles involved in the management of all kinds of livestock. Prerequisite, Animal Husbandry 1a, 1b. Two recitations per week. Mr. Kuhlman.

h7 Live Stock History (3, 3, 6) 4 credits Spring term

A detailed historical study of the common breeds, the methods employed by noted breeders, study of pedigrees of individuals and families and their relation to the development of the breed. Prerequisite, Animal Husbandry 1a, 1b. Three recitations per week. Mr. Kuhlman.

h 8a Horse Production (3, 3, 3) 3 credits Winter term

Feeding, judging, management and marketing of horses. Prerequisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Grinnells.

Laboratory fee, \$1.00.

h 8b Swine Production (3, 3, 3) 3 credits Winter term

Feeding, judging, management and marketing of swine. Prerequisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Kuhlman.

Laboratory fee, \$1.00.

h 8c Beef Cattle Production (3, 3, 3) 3 credits Spring term

Feeding, judging, management and marketing of beef cattle. Prerequisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Wilson.

Laboratory fee, \$1.00.

h 8d Sheep Production (3, 3, 3) 3 credits Fall term

Feeding, judging, management and marketing of sheep. Prerequisite, Animal Husbandry 4 and 6. Three recitations or lectures and three laboratory hours per week. Mr. Kuhlman.

Laboratory fee, \$1.00.

h 9 Live Stock Problems (to be arranged) 1 to 5 credits Each term

Advanced and graduate students who have the necessary qualifications may be assigned special problems along definite investigational lines. Such work will include assigned readings, conferences, and in a limited number of cases original work in animal husbandry research. Mr. Wilson; Mr. Kuhlman.

ART

PROFESSOR CALDWELL, ASSOCIATE PROFESSOR WILLIS,
MISS GERON

The work of this department is designed to cultivate in the student intelligent appreciation and enjoyment of beauty in nature and art.

- 1 Charcoal Drawing** 0, 3, 0) 1 (or 2) credits Any term
A study from cast, pose and still life, of the construction of heads and figures, the modeling of surfaces and effects of light. Three hours work for each credit. Limited credit subject. Miss Gernon.
Laboratory fee, 50 cents.
- 2a Design** (0, 6, 0) 2 credits Fall term
A study of space cutting and proportion. Exercises in line and in dark and light, in pencil and charcoal. Six hours of studio work a week. Miss Willis.
Laboratory fee, 50 cents.
- 2b Design** 0, 6, 0) 2 credits Winter term
A study of values, or dark and light arrangements within spaces; borders and surface patterns. Prerequisite, Art 2a. Six hours of studio work per week. Miss Willis.
Laboratory fee, 50 cents.
- 2c Design** (0, 6, 0) 2 credits Spring term
A study of color; hue value, intensity and harmony of color applied to simple design. Prerequisite, Art 2a and 2b. Six hours of studio work a week. Miss Willis.
Laboratory fee, 50 cents.
- 3a Design and Composition** (0, 4, 0) 1½ credits Fall term
A study of informal design in line, dark and light and color; decorations for definite problems; simple illustration with special emphasis on composition. Prerequisite, Art 2a, 2b, 2c. Six hours of studio work a week. Miss Willis.
Laboratory fee, 50 cents.
- 3b House Decoration** (0, 4, 0) 1½ credits Spring term
A study in proportion in line, dark and light and color as applied to the needs of a well designed house. The planning of color schemes and arrangements for particular rooms, giving special attention to light exposure. Prerequisite, Art 2a, 2b, 2c. Six hours of studio work a week. Miss Willis.
Laboratory fee, 50 cents.
- 3c Costume Design** (0, 4, 0) 1½ credits Winter term
A study of art applied to costume; designing dress with careful attention to the proportions and personality of the wearer and suitability to the occasion. Prerequisite, Art 2a, 2b, 2c. Six hours of studio work a week. Miss Willis.
Laboratory fee, 50 cents.
- 4 Applied Design** (0, 3, 0) 1 (or 2) credit Any term
A study of the principles of proportion and decoration as applied to construction and pattern in the various crafts of basketry, pottery, leather tooling, metalry, weaving, stenciling, block printing and lace making. Usually the student may choose the crafts in which he wishes to work. Prerequisite, the student must have had some training in drawing and design. Prerequisite for leather and stenciling, Art 1, and for second term pottery, charcoal drawing. Three to six hours of studio work a week. Miss Caldwell; Miss Gernon.
Laboratory fee, 50 cents.

5 Painting (0, 3, 0) 1 credit Any term

A study of the great masterpieces of architecture, sculpture and harmonizing color in painting and oil, watercolor and pastel, from objects and nature. Prerequisite, Preparatory Drawing or Charcoal Drawing. Three hours of studio work a week. Limited credited subject. Miss Caldwell.

6a, 6b, 6c Art Appreciation (1, 0, 1) $\frac{2}{3}$ credit Each term

A study of the great masterpieces of architecture, sculpture and painting. Illustrated with pictures and lantern.

Fall term: Important styles of architecture; characteristics, examples.

Winter term: Important schools of painting, great masters and examples of their work.

Spring term: 1, Great American artists and their work; 2, some of the minor arts such as pottery, china, tapestry, etc. Students are advised to take the courses in art appreciation in order named, but may take any term. Each student will be expected to own a small collection of Perry or University prints. Miss Caldwell.

BOTANY AND PLANT DISEASES

PROFESSOR PETRY

In the work of this department, the structure, physiology, classification and pathology of plants, and the fundamental problem of cell structure and function are studied, as well as the direct application of botanical science to agriculture. This work also helps to serve as a foundation for advanced courses in forestry, plant breeding, plant diseases, horticulture, etc.

The instruction aims primarily to develop the powers of accurate observation and the ability to draw correct conclusions concerning the growth and uses of plants.

Both the elementary and advanced laboratories are equipped with microscopes and other necessary apparatus for carrying on elementary and advanced or research work respectively. The department has fairly complete, convenient herbaria of the flowering plants and fungus flora of the United States.

1a Agricultural Botany (2, 4, 3) 3 credits Fall term

The general principles of biology as illustrated by plants, a study of the cell, followed by a study of the nature of flowering plants and especially of those more closely related to agriculture. Two lectures or recitations and two two-hour laboratory periods a week.

1b Agricultural Botany (2, 4, 3) 3 credits Winter term

A continuation of course 1a. The first part of the work will take up the life cycles of all classes of plants, and a study of the principal types of algae; the later part of the work will be a consideration of the principal groups of fungi and especially those causing diseases of the higher cultivated plants. Two lectures or recitations and two two-hour laboratory periods a week.

1c Agricultural Botany (2, 4, 3) 3 credits Spring term

The study of plants from a systematic point of view. The classification of trees found on the campus, followed by the identification of the principal groups of common weeds and cultivated plants, their heredity and breeding. Two lectures or recitations and two two-hour laboratory periods a week.

2a, 2b, 2c General Botany (2, 4, 3) 3 credits Each term

The work in this course will be somewhat similar to the preceding courses, but modified to apply more directly to the needs of students in General Science and Household Economics. Two lectures or recitations and two two-hour laboratory periods a week.

3 Plant Physiology (2, 4, 3) 3 credits Spring term

A consideration of the more important processes of plants including the properties of living matter; the general physiology of metabolism, growth, reproduction and irritability, the control of the chemical and physical life processes of plants, etc. Prerequisite, Botany 1a, 1b, 1c, or 2a, 2b, 2c. Two recitations and two two-hour laboratory periods a week.

4 Plant Diseases (2, 4, 3) 3 credits Winter term

This course acquaints the student with the commoner plant diseases of the state together with the best methods of controlling them. The systematic relationships of the causal fungi are also given proportionate attention, thus laying the foundation for advanced studies and for practical disease control work in the United States. Prerequisite, Botany 1a, 1b, 1c, or 2a, 2b, 2c. Two recitations and two two-hour laboratory periods a week.

Laboratory fee, \$3.00.

5 Taxonomy (2, 6, 4) 4 credits Fall term

The systematic arrangement and classification of the lower and intermediate divisions of plants, but especially of the higher flowering plants. The structure and relationship of weeds, grasses, grains and other plants of economic importance will be included. Prerequisite, Botany 1a, 1b, 1c, or 2a, 2b, 2c. Two recitations and two three-hour laboratory periods a week.

Laboratory fee, \$2.00.

6 Weeds (1, 6, 2,) 3 credits Fall term

The aim will be to acquaint students with our more common weeds and methods of control. Numerous field trips will be made in the early fall. Prerequisite, Botany 1a, 1b, 1c, or 2a, 2b, 2c. One recitation and three two-hour laboratory periods a week.

7 Plant Histology (0, 12, 0) 4 credits Winter term

The work will consist of the imbedding, sectioning, and staining of tissues from the various groups of plants. Prerequisite, general bot-

any and general chemistry or their equivalents. Text-book: Chamberlain's Methods in Plant Histology.

Laboratory fee, \$4.00.

h 8 Heredity (4, 0, 8) 3 credits Fall term

The principles of variation and heredity, their bearings upon the theory of organic evolution and their applications by man. This course is open to all students who have had general or agricultural botany and general zoology. Four recitations a week. Text-book: Babcock and Clausen's Genetics in Relation to Agriculture.

9 Botany Seminar 1 credit Each term

Reviews of current research in the various divisions of botany. Hours to be arranged. A two-hour session per week. Prerequisites as in Botany 10, or equivalents.

h 10 Advanced Botany and Research 2 to 5 credits Each term

Prerequisites, Botany 1a, 1b, 1c, or Botany 2a, 2b, 2c, and that course of the following which supports the advanced work desired, viz: Taxonomy, Physiology, Plant Diseases, Plant Histology, or Heredity. Two and three credit courses will be class work, while four and five credit courses will usually consist of research work.

Laboratory fee, \$1.00 per credit when laboratory work is involved in work elected.

CHEMISTRY

PROFESSOR DUNBAR, ASSOCIATE PROFESSOR BINNEWIES,
ASSOCIATE PROFESSOR BOTTERON, MR. WELLS, MR.
FARLEY.

It is the aim of the department to give the student a general training, so far as the required courses are concerned, in the elementary principles of the science, especially as applicable to the problems he may be expected to meet in relation to the work of an instructor of agricultural subjects, and to the work in his more advanced courses in other lines of study. The courses are also designed with a view to technical and analytical preparation for students who purpose to enter commercial and experimental careers along chemical lines. With such aims in view, the department stresses the practical rather than the theoretical application of chemistry, although such degree of importance is attached to the latter phase of the study as to make the work adaptable to higher investigational courses, should the student incline toward such further study of chemistry. The advanced and elective courses are designed especially for training students who purpose to study pharmacy, medicine and food problems, and those who are looking

towards technical positions in manufacturing plants or in experiment station work.

The following is a brief description of the courses offered:

1 a Inorganic Chemistry (3, 3, 3) 3 credits Fall term
General chemical laws and study of non-metallic elements. Laboratory work stresses qualitative properties and tests. Prerequisite, freshman standing. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Botteron; Mr. Farley.

Laboratory fee, \$3.00, deposit, \$2.00.

1 b Inorganic Chemistry (3, 3, 3) 3 credits Winter term
Continuation of 1a. Study of metallic elements with laboratory work devoted to study of properties, commercial uses, and qualitative determinations of the metals. Prerequisite, Chemistry 1a. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Botteron; Mr. Farley.

Laboratory fee, \$3.00, deposit, \$2.00.

1 c Inorganic Qualitative Analysis (3, 3, 3) 3 credits Spring term
Continuation of 1a and 1b. Analysis of mixtures of common inorganic compounds, with review of entire subject of Inorganic Chemistry. Prerequisite, Chemistry 1a and 1b. Three recitations and three laboratory hours a week. Mr. Dunbar; Mr. Binnewies; Mr. Botteron; Mr. Farley.

Laboratory fee, \$4.00, deposit, \$2.00.

2a Elementary Organic Chemistry (5, 5, 5) 5 credits Fall term
A general course covering essentials of the subject as applicable to work in Agriculture and Domestic Science. Laboratory work largely qualitative. Prerequisite, Chemistry 1a, 1b, 1c. Five recitations and five laboratory hours a week. Mr. Binnewies; Mr. Dunbar; Mr. Botteron; Mr. Farley.

Laboratory fee, \$5.00, deposit, \$2.00.

2 b Elementary Organic Chemistry (3, 3, 6) 4 credits Winter term
A general course covering essential phases of the subject particularly applicable to the study of pharmacy. For pharmacy students only. Prerequisite, 1a, 1b, 1c. Three recitations and three laboratory hours per week. Mr. Farley.

Laboratory fee, \$5.00, deposit \$2.00.

2 c Elementary Organic Chemistry (3, 3, 6) 4 credits Spring term
Continuation of 2b, which is a prerequisite. For pharmacy students only. Three recitations and three laboratory hours per week. Mr. Farley.

Laboratory fee, \$5.00, deposit \$2.00.

3 Quantitative Analysis (1, 8, 0) 3 credits Winter term
Mainly devoted to gravimetric manipulation of inorganic types, with simple problems in volumetric analysis at the close of term. Prerequisite, Chemistry 1a, 1b, 1c. Nine laboratory hours a week, one of them devoted to a lecture upon the explanation of principles involved and methods of attack. Mr. Botteron.

Laboratory fee, \$3.50, deposit, \$2.00.

4 Volumetric Analysis (0, 9, 0) 3 credits Spring term
Continuation of Chemistry 3 and wholly given over to commercial and volumetric analysis of common inorganic materials. Prerequisite, Chemistry, 1a, 1b, 1c, 3. Elective. Nine hours of laboratory work a week. Mr. Botteron.

Laboratory fee, \$2.00, deposit, \$2.00.

5 Chemical Problems (3, 0, 6) 3 credits Spring term
Study of the more common calculations encountered in Pharmacy and Quantitative Chemistry. Prerequisite, Chemistry 1a, 1b. Three recitations a week.

6 Chemistry of Foods and Nutrition (3, 3, 6) 4 credits Winter term
Study of elementary problems in Physiological Chemistry as related to nutrition, digestive processes and metabolism in general, with special stress upon laboratory work connected with study of nutrients and food values. A course especially aimed to cover problems arising out of work in Domestic Science Courses. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three lectures and three laboratory hours a week. Mr. Dunbar.

Laboratory fee, \$3.50, deposit \$2.00.

h 7a Advanced Organic Chemistry (3, 6, 6) 5 credits Fall term
Intensive study of Aliphatic types, with laboratory work devoted to practice upon well-known synthetic methods. Course aimed toward industrial application and preparation for medical study. Prerequisite, Chemistry, 1a, 1b, 1c, 2. Three recitations and six laboratory hours a week. Mr. Binnewies.

Laboratory fee, \$5.00, deposit, \$2.00.

h 7b Advanced Organic Chemistry (3, 6, 6) 5 credits Winter term
Continuation of 7a, but may be taken as a unit course. Aromatic types. Laboratory work upon synthesis of these types. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three recitations and six laboratory hours a week. Mr. Binnewies.

Laboratory fee, \$5.00, deposit, \$2.00.

h 7c Advanced Organic Chemistry (2, 9, 4) 5 credits Spring term
Continuation of 7b. Aromatic types, with special reference to dyes. If time permits, qualitative work in identification of organic groups typical for different common organic compounds will be offered. Prerequisite, Chemistry 1a, 1b 1c, 2, 7b. Mr. Binnewies.

Laboratory fee, \$5.00, deposit \$2.00.

h 8 Proximate Organic Analysis (0, 9, 0) 3 credits Winter term
Quantitative analysis of cereals, dairy products, beverages, fungicides, insecticides, food adulterants. Prerequisite, 1a, 1b, 1c, 2, 3. Nine hours of laboratory work a week. Mr. Wells.

Laboratory fee, \$3.50, deposit \$2.00.

h 9 Water Analysis (0, 9, 0) 3 credits Spring term
Sanitary and complete analysis of water, to determine potability or value as boiler waters. Preparation of reports of such analysis. This course should be preceded or accompanied by a course in bacteriological analysis of water. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Nine laboratory hours a week. Mr. Wells.

Laboratory fee, \$4.00, deposit, \$2.00.

h 10 **Agricultural Chemistry** (3, 3, 6) 4 credits Fall term
A study of the application of chemical laws, methods and principles to problems which are essentially agricultural. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Three recitations and three laboratory hours a week. Mr. Wells.

Laboratory fee, \$2.00, deposit, \$2.00.

h 11 **Inorganic Technology** (3, 0, 6) 3 credits Fall term
A study of inorganic technical and commercial processes. Offered in odd-numbered years only. Prerequisite, Chemistry 1a, 1b, 1c, 2, 3. Three recitations or lectures a week. Mr. Farley.

h 12 **Physical Chemistry** (3, 6, 6) 5 credits Spring term
Elementary course including molecular weight determinations, conductivity and electrolytic dissociation, equilibrium, polarimetry, spectroscopy, refractometry. Offered in odd-numbered years only. Prerequisite, 1a, 1b, 1c, 3, and Physics 1a, 1b, 1c. Three lectures and six laboratory hours a week. Mr. Farley.

Laboratory fee, \$5.00, deposit, \$2.00.

h 13 **Organic Technology** (3, 0, 6) 3 credits Winter term
A study of commercial and technical methods in the preparation of organic materials. Prerequisite, Chemistry 1a, 1b, 1c, 2. Three lectures or recitations a week. Offered in even-numbered years only. Mr. Farley.

h 14 **Physiological Chemistry** (2, 6, 4) 4 credits Spring term
Work in metabolism, ferment action, digestive processes, nutrition, urinalysis, and like physiological phases of chemical application. An advanced course for students preparing for medical work and for advanced students in Domestic Science. Prerequisite, Chemistry 1a, 1b, 1c, 2, 6. Mr. Dunbar.

Laboratory fee, \$5.00, deposit, \$2.00.

h 15 **Thesis** (0, 15, 0) 5 credits Spring term
Required of all students majoring in Chemistry. Topic to be assigned. Fifteen laboratory hours a week. Prerequisites depend upon nature of work assigned. Mr. Dunbar.

Laboratory fee dependent upon nature of work assigned.

CIVIL ENGINEERING

PROFESSOR SNADER, MR. MAUGH

The course in Civil Engineering is planned to give a broad education in both general and scientific subjects, and a thorough training in the principles underlying all engineering; with as much special training as time will permit in those subjects belonging particularly to the field of the civil engineer.

Nearly all of the time of the junior and senior years is devoted to purely engineering subjects, the greater portion

of the student's work being under the direct supervision of the Civil Engineering Department. In the senior year a choice is made of the two groups of subjects, Structural Engineering and Highway Engineering. Increased interest in road-building throughout the state, as well as in other states, makes it desirable that men wanting to specialize in Highway Engineering be given the opportunity to do so.

The Experimental Engineering Laboratory is described elsewhere, in which all engineering students study the composition, properties, and characteristics of materials of construction in the usual first courses in testing materials.

In addition to the above there has very recently been added a well equipped laboratory and storage room for specimens, for the use of the Civil Engineering Department.

Latest equipment for testing highway materials and reinforced concretes has been provided for use in connection with the senior civil engineering courses in highway engineering and reinforced concrete design. This equipment includes a beam machine for testing reinforced concrete beams as large as 8 inches by 12 inches and 12 feet long, a standard ball mill, a standard DeVal abrasion machine, a standard briquette-making machine for highway materials, a standard impact machine for cementation tests of highway materials, a ro-tap testing sieve shaker, deflection instruments, balances, platform scales, screens, dial indicators, mixing pan, moulds, and many smaller pieces of apparatus.

The department is also provided with suitable field and drafting room equipment, including transits, levels, plane-table, solar attachment, compasses, sextant, current meter, planimeter, tapes, rods and other hand instruments.

A detailed description of each subject offered by the department follows:

1 Plane Surveying	(0, 9, 0) 3 credits	Spring term
Lectures, field and office work in the theory and practice of plane surveying. Field work with tape, level and transit. Much emphasis is placed on high standard in form and style of the student's field notes and office calculations. Prerequisite, Mathematics 3 and Mechanical Engineering 3a, 3b. Nine hours of field work a week. Mr. Snader; Mr. Maugh.		

Laboratory fee, \$2.00.

2 Topographical Surveying (0, 9, 0) 3 credits Fall term

Continuation of Plane Surveying with considerable practice in leveling, use of the transit, and in baseline measurements and triangulation. A study of the theory and use of the stadia and plane table. Determination of contours for topographic map. Prerequisite, Civil Engineering 1. Nine hours of field and office work a week. Mr. Maugh.

Laboratory fee, \$2.00.

3 Topographical Drawing (0, 3, 0) 1 credit Spring term

Engineering lettering and pen topography; a study of scales and contours; the plotting of profiles from contour plans; and the construction of a complete topographic map. Prerequisite, Civil Engineering 1 and 2. Three hours of drawing a week. Mr. Maugh.

4a Hydrology (1, 0, 2) 1 credit Fall term

Occurrence, distribution, utilization and control of water over the surface of the earth, and its sanitary, agricultural and commercial relations, from the viewpoint of the engineer. Relation between precipitation and runoff; ground waters, stream discharge, floods and flood flows. Applications to the work of the engineer. Prerequisite, Physics 1a, 1b, 1c, Mathematics 4, 5a 5b. To be taken with 4b (Hydraulics). Open only to civil engineering students. One recitation and lecture a week. Mr. Snader.

h 4b Hydraulics (3, 0, 6) 3 credits Fall term

Hydrostatics and theoretical hydraulics. The flow of water through orifices, tubes, open channels, and over weirs. Losses of head due to frictional and other resistances. Prerequisites, Physics 1a, 1b, 1c, Mathematics 4, 5a, 5b. Three recitations a week. Mr. Snader; Mr. Maugh.

h 5 Theory of Structures (1, 6, 2) 3 credits Winter term

Analysis of stresses in framed structures, especially the simple types, including beams, roofs, bridges, and mill buildings under different conditions of loading. Both graphic and analytical methods are discussed and many problems are solved. Prerequisite, Physics, 1a, 1b, 1c, Mathematics 6, Mechanical Engineering 5, and Civil Engineering 6a, or 6a simultaneously. Nine hours a week. Mr. Snader; Mr. Maugh.

h 6a, 6b Mechanics of Materials (3, 0, 6) 3 credits Winter term

(3, 0, 6) 3 credits Spring term

A study of the strength and elastic properties of timber, brick, stone, cast iron, wrought iron and steel. The theory of beams, columns and shafts; a study of combined stresses, impact and fatigue, true internal stresses, the application of the principle of least work and the solution of problems. Prerequisite, Mathematics 5a, 5b and 6. Three recitations a week winter term; three recitations a week spring term. Mr. Maugh.

h 7 Railroad Surveying (3,0,6) 3 credits Winter term

Reconnaissance, preliminary location methods, theory of curves and turnouts. The computation of earth-work and the estimate of costs. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1924. Prerequisite, Civil Engineering 1, 2, and 3, and Mathematics 5a and 5b. Three recitations a week. Mr. Snader; Mr. Maugh.

Laboratory fee, \$1.00.

h 8 Elements of Design of Structures (3, 0, 6) 3 credits Spring term

A continuation of Civil Engineering 5. Locomotive wheel loads on plate girders and bridge trusses. Elements of design of steel beams, plate girder bridges, truss bridges, and other structures. General design and detailing of practical problems. Prerequisite, Civil Engineering 5, 6a and 6b. Three recitation a week. Mr. Snader; Mr. Maugh.

h 9a Masonry and Reinforced Concrete (2, 0, 4) 2 credits Fall term

A study of the manufacture and use of cement, the proportioning and properties of concrete; the occurrence of the common building stone and the proper use of them in walls, foundations and other engineering structures. Theory and design of reinforced concrete. Prerequisite, Civil Engineering 6a, 6b, and 8. Two recitations a week. Mr. Snader.

9 b Reinforced Concrete Laboratory (0, 3, 3) 2 credits Fall term

The laboratory work is preceded by a careful, comprehensive study of published tests of reinforced concrete beams, columns, flat slabs, foundations, buildings, and bridges under load. Rectangular beams, T-beams, and continuous beams, with different types of reinforcement are studied and their action under different conditions of loading. Actual laboratory work in the making and testing of beams is here carried out in connection with civil engineering courses 9a and 10a (Reinforced Concrete Design) to help illustrate and make clearer proper design basis of reinforced concrete structures. Written reports are required, with particular emphasis placed on the presentation and interpretation of obtained data. Prerequisite, Civil Engineering 5, 6a, 6b, and 9a simultaneously. Open only to senior civil engineering students. One recitation and lecture and three hours of laboratory work a week. Mr. Snader.

h 10a Reinforced Concrete (3, 0, 6) 3 credits Winter term

The theory and design of reinforced concrete and applications to various types of engineering structures. Prerequisite, Civil Engineering 6a, 6b, 9, and 9b. Open only to senior civil engineering students. Three recitations a week. Mr. Snader.

10 b Reinforced Concrete Laboratory (0, 3, 0) 1 credit Winter term

Continuation of laboratory work of civil engineering course 9a, in the making and testing of reinforced concrete members. Study of the existence of internal stresses in specimens of different sizes, having different types of reinforcement, and under different conditions of loading. Prerequisite, Civil Engineering 5, 6a, 6b, 9a, 9b, and 10a simultaneously. Open only to senior civil engineering students. Three hours of laboratory work a week. Mr. Snader.

h 11a, 11b Bridge Design	(1, 6, 2) 3 credits	Fall term
	(1, 3, 2) 2 credits	Winter term

Theory, designing and detailing; the making of general and detailed drawings for a plate girder, the designing and drawing of a highway bridge, and the design and making of drawings for reinforced concrete bridges. Prerequisite, Civil Engineering 5, 6b and 8. One recitation and six hours of laboratory work a week, fall term; one recitation and four hours of laboratory work a week, winter term. Mr. Snader.

h 12 Roads and Pavements (3, 0, 6) 3 credits Fall term

The location, construction and maintenance of highways and streets. Types and methods of construction and maintenance. Road building machinery. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1923. Prerequisite, Civil Engineering 1 and 2, and Mechanical Engineering 3a, 3b. Three recitations a week. Mr. Snader.

h 13 Water Supply (3, 0, 6) 3 credits Fall term

The study of the principles underlying the selection of a pure water supply; and a study of the proper design, construction and operation of municipal water supply systems. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1924. Prerequisite, Civil Engineering 1 and 4, or 4 simultaneously, and Chemistry 1a, 1b, 1c. Three recitations a week. Mr. Snader.

h 14 Sewerage (3, 0, 6) 3 credits Winter term

The study of the principles involved in the selection, design, construction and operation of an efficient municipal sewerage disposal system. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1923. Prerequisite, Civil Engineering 4 and 13. Three recitations a week. Mr. Snader.

h 15 Irrigation Engineering (2, 0, 4) 2 credits Spring term

The principles of irrigation engineering; design, construction, maintenance and operation of works for holding and controlling the water needed for agriculture. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1923. Prerequisite, Civil Engineering 4. Two recitations a week. Mr. Snader.

h 16 Highway Engineering (2, 0, 4) 2 credits Winter term

Theory, location, planning, design. Economics of location; theory and design of highways. Effects of traffic. Properties, comparisons and selection of type of roads and pavements. Inspection and supervision of construction. Prerequisite, Civil Engineering 12. Two recitations a week. Mr. Snader.

h 17 Highway Engineering (2, 0, 4) 2 credits Spring term

Location, design, financing, organization and administration. Comparisons of roads and pavements, design. Study of standard and special specifications. Problems of financing highway improvements, methods of financing, character and planning of organization, administration methods and systems. Prerequisite, Civil Engineering 16. Two recitations a week. Mr. Snader.

h 18 Railroad Surveying (0, 6, 0) 2 credits Spring term

A continuation of Civil Engineering 7. Actual field practice in the location of a short line railroad, from the reconnaissance to the final location, and the making of the necessary maps and profiles. Juniors and seniors will take this subject at the same time and it will be given in alternate years only. It will be given in 1924. Prerequisite, Civil Engi-

neering 1, 2, 3 and 7. Six hours of field work a week. Mr. Snader; Mr. Maugh.

Laboratory fee, \$2.00.

h 19 Structural Steel Design (1, 6, 2) 3 credits Spring term

Lectures on shop practice in making drawings. Theory and actual practice in designing connections, the design of beams, bearings, columns, girders, grillage foundations and roof truss. Prerequisite, Civil Engineering 5, 6a, 6b and 8. One recitation and six hours of drawing a week. Mr. Snader.

h 20 Higher Structures (2, 0, 4) 2 credits Spring term

A study of continuous, draw, cantilever and suspension bridges, and metallic arches. The theory and design of masonry dams and arches. Prerequisite, Civil Engineering 5, 6a, 6b, 8, 11a, 11b, and 19 simultaneously. Two recitations a week. Mr. Snader.

h 21 Drainage Engineering. (1, 0, 2) 1 credit Spring term

Study of the development, importance, and economic value of drainage from the standpoint of reclamation of land. Underlying theory and application of engineering principles upon which proper practice of drainage rests. Location, design and construction of drainage works. Juniors and seniors will take this subject at the same time and it will be given in alternate years only. It will be given in 1924. Prerequisite, Civil Engineering 4. Open to civil engineering students. One recitation and lecture a week. Mr. Snader.

h 22 Civil Engineering Specifications and Contracts

(1, 0, 2) 1 credit Spring term

Synopsis of the law of contracts as applied to engineering construction; a study of typical contracts and specifications, and survey descriptions. Juniors and seniors will take this subject at the same time, and it will be given in alternate years only. It will be given in 1923. Prerequisite, junior standing in engineering. One recitation and lecture a week. Mr. Snader.

h 23 Scientific Management (1, 0, 2) 1 credit Fall term

(1, 0, 2) 1 credit Winter term

Principles of scientific management of industry and engineering works. Scope of the science of management; location and planning of plants and equipment. Fundamental considerations as to men, materials, methods and costs. Determination and distribution of materials and labor costs. Open to junior and senior civil engineering students. Given as elective. One recitation and lecture a week. Mr. Snader.

COMMERCE

PROFESSOR PRATHER, MISS UMMEL, MR. SAATHOFF

The Department of Commerce offers a complete college course leading to the degree of Bachelor of Science in Commerce, and a one year vocational course for those who must enter business with less preparation than a full college course.

Never in the history of our country were young men and young women in greater demand in commercial lines than at the present time, and we believe that in order to achieve the largest measure of success, and to perform his duties to himself and society, the business man should have a broad, general education as well as a course adapted to specialized business. Such preparation has been provided for in the four years course. See plans of study of college courses.

This course is also intended to train those expecting to become commercial teachers, since the requirements of many states, including our own, demand that teachers of special subjects be college graduates.

A one year vocational course in the department is offered for the benefit of those who are unable to complete the four years course. Upon the completion of this course, which is outlined among special and secondary courses, the student will be given a certificate.

The entrance requirement to the one year course is a four years high school course or its equivalent.

1a, 1b, 1c **Accounting I** (0, 6, 3) 3 credits Fall term

It is the purpose of this work to acquaint the student with the different industrial organizations, and the latest methods of keeping the accounts and records of these institutions. Prerequisite, one semester of bookkeeping. Six hours a week of recitation and laboratory work. Mr. Prather, Mr. Saathoff.

2a, 2b **Business Law** (3, 0, 6) 3 credits Fall term

(3, 0, 6) 3 credits Winter term

The purpose of this subject is to give the student a knowledge of the fundamental principles of law as applied to business relations. The aim is to show the way that leads from litigation rather than to make lawyers of the students. While this course is required only of students in the commercial course, it is a profitable study for anyone. Prerequisite, freshman standing. Three recitations a week. Mr. Prather, Mr. Saathoff.

3 **Business Organization** (3, 0, 6) 3 credits Spring term

A continuation of Business Law. Laws governing Proprietorship, Partnership, Joint Stock Companies, Insurance Companies and Common Carriers are discussed in non-technical language. Prerequisite, Commerce 2. Three recitations a week. Mr. Prather.

h 4 **Money and Banking** (3, 0, 6) 3 credits Spring term

A theoretical and practical study of the history, nature and uses of money; classification of banks; loans, discounts and collections; Clearing Houses, Federal Reserve System, etc. This theoretical study will be supplemented with Bank Bookkeeping. Prerequisite, junior standing,

Commerce 2 and 3. Three recitations a week. Mr. Prather. (Offered in 1923-1924.)

5a, 5b, 5c **Shorthand** (5, 0, 10) 5 credits Each term

This course continues through the year and cannot be entered after the second week of the fall term unless the student has carried the subject at some other time and is able to take up the work with the class. Clegg Shorthand is taught. Prerequisite, freshman standing. Five recitations a week. Miss Ummel.

6a, 6b, 6c **Typewriting** Each term

Typewriting is required of all students taking shorthand. Graded exercises to learn "touch method" are first given. Care of machine; correspondence and legal forms; billing and tabulating; manifold and mimeographing. Five or ten hours a week. Ten hours a week are required in the Vocational Course, for which three credits are given. Limited credit subject. Miss Ummel.

7 **Secretarial Practice** No credit Spring term

As far as possible practice in college offices or with business firms in town. Also a great deal of class room practice in taking dictation and transcribing on the typewriter. Two dictaphones are in use in this course. Mr. Prather and Miss Ummel.

8 **Pharmaceutical Accounting** (0, 4, 2) 2 credits Fall term

This course is given only to students taking the courses in Pharmacy. Four hours of recitation and laboratory work a week. Mr. Prather.

9a, 9b, 9c **Accounting II** (0, 6, 3) 3 credits Each term

This is an advanced course and may be taken instead of Stenography by those taking the four years college course in Commerce. Prerequisite, Accounting 1. Six hours of recitation and laboratory work a week. Mr. Saathoff.

h 10 **Salesmanship** (3, 0, 6) 3 credits Winter term

This course is a study of the science and art of selling. Open only to junior and senior students in Commerce. (Offered in 1922-1923.) Mr. Saathoff.

h 11 **Advertising** (3, 0, 6) 3 credits Spring term

This course will be a study of advertising in all its phases. Fundamental principles, where and how advertising can be used most effectively, and the selection of advertising mediums are important subjects that will be covered. Students will also be required to write copy, design layouts, select color and type, and plan campaigns. Open only to junior and senior students in Commerce. (Offered in 1922-1923.)

h 12 **Investments** (3, 0, 6) 3 credits Winter term

A course in corporate finance and investments. Open only to junior and senior students in Commerce. (Offered in 1922-1923.) Mr. Saathoff.

DAIRY HUSBANDRY

ASSOCIATE PROFESSOR WRIGHT, ASSOCIATE PROFESSOR OLSON, MR. GILCREAST, MR. TOTMAN

The Dairy Husbandry Department offers a four-year collegiate course, and a three-month creamery course.

The four-year course has been outlined with the special view of fitting young men to become teachers and investigators of dairying in public schools, agricultural colleges and experiment stations; inspectors of creameries and dairy products in municipal, state and government service, and superintendents of creameries and dairy farms. In this course either dairy production or dairy manufactures may be chosen, the choice being made at the beginning of the junior year. For graduation there is required at least one summer's work either on a dairy farm or in a creamery or other dairy plant, depending on the work in which the student is specializing.

The three-month creamery course is given with the view of training men to become successful operators of creameries, ice cream and market milk plants.

The demand for good men properly trained along dairy lines is great. Compensation for dairy and creamery work is good. Worthy students can depend upon the co-operation of the department in securing work.

The Dairy Husbandry Department operates on a commercial basis a well equipped creamery in which butter, cheese, and ice cream are manufactured throughout the year. The department occupies a two-story brick building. On the first floor are the engine room, creamery rooms with full equipment for butter, cheese and ice cream making, refrigerating rooms, locker room, and a large laboratory used for instructional purposes. On the second floor are located class rooms, offices, dairy bacteriology laboratory, chemistry research laboratory and reading room.

The dairy herd, which consists of representatives of the principal dairy breeds, affords an excellent opportunity to become acquainted with dairy types. The dairy barn is large and well equipped. Milking machines are in daily use, thus

affording students opportunity to acquire practical knowledge regarding their operation and care.

Experiments relating to feeding, breeding, and care of dairy stock and the manufacture of dairy products are in progress at all times. Students may have the advantage of keeping in touch with these experiments, note manner of outlining and executing investigational work, and profit from results. Advanced students may arrange to assist in some of this work.

The following work is offered:

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| 1a, 1b | Farm Dairying | (2, 3, 4) 3 credits | Spring term |
| | | (2, 3, 4) 3 credits | Fall term |

Testing of milk and its products for fat, acid, and common adulterations. Study of cream separators, farm buttermaking and cottage cheese. Study of the purpose and importance of dairy farming; breeds of dairy cattle and characteristics of each; care and feeding of the dairy herd; management of the dairy herd; disposing of dairy products. Study of breed type and conformation and the judging of dairy cattle. Two recitations and three hours of laboratory work a week. Mr. Olson.

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| <i>h</i> 2 | Dairy Inspection | (3, 0, 6) 3 credits | Fall term |
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Thorough study of Babcock test for fat; the lactometer and its application; tests for acidity of dairy products; tests for moisture in butter; influence and detection of different preservatives and adulterations; scoring butter, cheese and milk; Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

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| <i>h</i> 3 | Dairy Bacteriology | (2, 6, 4) 4 credits | Winter term |
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Bacteriological principles as related to dairying; contamination of milk; fermentations of milk and their control; relation of disease bacteria to milk; preservation of milk for commercial purposes; bacteria as related to the manufacture of butter, cheese and ice cream. Prerequisite, Dairy 1 and General Bacteriology. Two recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

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|------------|------------------------------|---------------------|-------------|
| <i>h</i> 4 | Manufacture of Butter | (3, 6, 6) 5 credits | Spring term |
|------------|------------------------------|---------------------|-------------|

Receiving, sampling and separation of milk and cream; preparation and use of starter; pasteurization and ripening of cream; principles of churning; washing, salting, working, packing and marketing of butter. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

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|------------|------------------------------|---------------------|-----------|
| <i>h</i> 5 | Manufacture of Cheese | (3, 6, 6) 5 credits | Fall term |
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Study of milk as applied to cheese-making; manufacture of hard and soft cheeses; principles involved in the setting, cutting, cooking, dipping, milling, salting, pressing, curing, and marketing of cheese. Given every other year. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright.

h 6 Dairy Management (2, 3, 4) 3 credits Spring term

Methods of improving the dairy herd; methods of keeping records of feed, milk and dairy herd. Extent to which dairy farming is practiced and under what conditions it is best applicable. Arrangement and construction of dairy farm buildings; details of herd management; advanced judging of dairy cattle. Prerequisite, Dairy 1. Two recitations and three hours of laboratory work a week. Mr. Olson.

h 7 Dairy Technology (3, 6, 6) 5 credits Fall term

A study of market milk and ice cream making. Also the utilization of milk and its products outside of the scope ordinarily embraced under dairying; value of milk as a food; preparation of certified, modified, standardized, fermented, and condensed milk; the manufacture of casein, milk ivory, milk sugar, renovated butter and oleomargarine. Given every other year. Prerequisite, Dairy 1. Three recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

h 8 Dairy Research (2, 0, 4) 2 credits Winter term

Views held by different authorities on important dairy subjects; a digest of recent dairy work of the experiment stations; comparative dairying as practiced in the leading countries; reference and reports. Prerequisite, Dairy 1, 2, 3, 4 and 6. Mr. Wright; Mr. Olson.

9 Dairy Practice

Credits will be given for a suitable report of satisfactory work in a commercial creamery or other dairy plant. Students specializing in dairy manufactures must have some practical experience of this nature.

10 Domestic Dairying (1, 3, 2) 2 credits Fall term

Such phases of dairying as will be of greatest interest and value to ladies and home life; properties and uses of milk and its component part in the home and for commercial purposes; relation of germs to quality of milk from consumers' standpoint; effects and detection of adulteration of dairy products; care and handling of dairy products in the home; making and judging of cheese and butter. Prerequisite, Chemistry 1a, 1b, 1c. One recitation and three hours of laboratory work a week. Mr. Olson.

h 11 Advanced Inspection of Dairy Products

(1, 9, 2) 4 credits Winter term

Properties of the component parts of milk and its products; condensed and powdered milks; butter from neutralized cream; leading types of cheese; brief survey of the milk of other animals than the cow; abnormal milk; substitutes for butter; determination of the important constants of butter fat. Text: Richmond, Dairy Chemistry. Prerequisite, Dairy 2 and Quantitative Chemistry. One recitation and nine hours of laboratory work a week.

Laboratory fee, \$2.00.

h 12 Advanced Dairy Bacteriology (2, 6, 4) 4 credits Spring term

A continuation of Dairy Bacteriology (Dairy 3); isolation of the bacteria of special importance in the dairy industry; characteristics of the bacteria that cause undesirable fermentations, bitter milk, slimy milk, gargetty milk, gassy cheese, rancid butter, etc.; desirable bacteria in milk; pure cultures widely used in connection with fermented milk drinks.

Prerequisite, Dairy 1, 2 and 3. Two recitations and six hours of laboratory work a week. Mr. Wright.

Laboratory fee, \$2.00.

h 13 Advanced Judging of Dairy Cattle and Dairy Products

(0, 6, 0) 2 credits

Fall term

A course designed to acquaint the student with features of show ring judging. A close study of breed types and characteristics; practice in giving oral and written reasons; competitive judging. The judging of cheese, butter and milk will be on the basis of the score cards used by the U. S. Department of Agriculture with special attention paid to the rules of the contest held at the National Dairy Show. Students expecting to take this course should notify the department before September 1st, as a part of the work is given in connection with the State Fair, preparing a team to represent the College in the student's National Judging Contests. Prerequisite, Dairy 2 or 6. Open only to juniors and seniors. Six hours of laboratory work a week. Mr. Wright; Mr. Olson.

h 14 Dairy Seminar

(2, 0, 4) 2 credits

Spring term

This course includes the study and review of scientific literature on various phases of the dairy industry; writing up and reporting of same before the class. Prerequisite, Dairy 1, 2, 3, 4 and 6. Staff.

h 15 Dairy Cattle Feeding

(3, 0, 6) 3 credits

Fall term

Study of milk production and secretion; feeding standards; dairy feeds; methods of preparing feeds and feeding dairy cattle. Prerequisite, Animal Nutrition. Mr. Olson.

h 16 Advanced Study of the Dairy Breeds

(3, 0, 6) 3 credits

Winter term

Origin, history and characteristics of the leading dairy breeds. Study of families, and noted producers and show ring winners. Study of leading breeders, and their contribution to the breed. Prerequisite, Dairy 6. Mr. Olson.

h 17 Management of Dairy Plants (2, 3, 4) 3 credits

Spring term

Organization and construction of factories; creamery refrigeration; purchase of raw material, other factors in management. Text: Mortenson, Management of Dairy Plants. Prerequisite, senior standing. Mr. Wright.

EDUCATION

PROFESSOR WILLIAMS ASSISTANT PROFESSORS WISEMAN,
HARTNETT, McARTHUR, JOHNSON, MR. BEARD

The Department of Education has for its chief purpose the training of teachers, principals, supervisors, and superintendents for the schools of South Dakota. Provision is made for, and especial attention is given to the training of agricultural, home economics, and industrial teachers.

Students who expect to teach should select their field as early as possible in their college course by consulting with the

head or other members of the department. The following explanation should be carefully noted:

Three kinds of certificates are granted by the State Superintendent of Public Instruction on college credentials,—the Life Professional Diploma, the State Certificate and the Vocational Certificate.

1. The Life Professional Diploma is the highest one issued and is valid for teaching in all the public schools of whatever grade.* It is issued to graduates of the College who have taken fifteen semester hours or twenty-two and one-half term-credit hours of work in the Department of Education. Since eight years of experience in teaching is required, a Provisional Professional Diploma is granted to the graduates of the College who have not had the required experience in teaching but who can satisfy the other requirements. The Provisional Diploma is valid for two years but may be renewed until the required experience has been required.
quired experience has been acquired.

2. The State Certificate is valid for teaching the first nine grades of the public schools for five years and is renewable. To secure this certificate eighteen months' teaching is required. A Provisional State Certificate is issued to those who have not had the necessary teaching experience but who can satisfy the other requirements. The Provisional Certificate is valid for two years and is renewable.

3. The Vocational Certificate is valid for five years and authorizes the holder to teach such subjects as music, art, commercial subjects or manual training. This certificate is granted on essentially the same conditions as the State Certificate (or Provisional State Certificate) excepting that the applicant must show proficiency in the particular vocational subject or subjects for the teaching of which the certificate is desired. No experience is required to secure this certificate.

To secure these certificates there are academic, residential and professional requirements to be met as follows:

1. Academic. All of these certificates require the following high school credits.

- 3 units of English
- 1 unit of Algebra
- 1 unit of Plane Geometry
- 1 unit of American History and Civics
- 1 unit of Natural Science

College students who may be short any of the high school requirements may substitute college credits of similar subject matter.

2. Residential.

a. For the Life Professional Diploma or the Provisional Life Professional Diploma a minimum of 258 weeks of school attendance above the eighth grade is required. (Four years of college work.)

b. For the State Certificate or the Provisional State Certificate and the Vocational Certificate, a minimum of 196 weeks of school attendance above the eighth grade is required. (Two years of college work.)

3. Professional. Applicants for any of these certificates must secure not less than $22\frac{1}{2}$ credit hours in the Department of Education.

a. Life Professional Diploma (or Provisional).

The State College courses in Agricultural Education and in Home Economics Education lead to this Diploma and also satisfy the requirements for teaching in Smith-Hughes schools. For students taking a General Science course or specializing in Manual Training, Athletics or Physical Training, etc., courses in Educational Psychology, Principles of Teaching and Observation and Practice Teaching are required. Students should consult the head of the Department of Education before taking electives in the department to be assured that they can satisfy this professional requirement.

b. State Certificate (or Provisional) or Vocational Certificate.

For those seeking one of these certificates two years of college work are required, including courses in Educational Psychology and Principles of Teaching, a minimum of 54 sixty minute hours of Observation and Practice Teaching, and a total minimum of $22\frac{1}{2}$ term-credit hours in Education.

The School of Agriculture, a secondary school with a four years course, is under the direction of the head of the Education Department, an arrangement which facilitates the provision of opportunities for observation and practice teaching. A limited number of classes in conditioned subjects (upper grade preparatory subjects) is also available for practice teaching. They are also under the direction of the head of the Education Department. Additional opportunities for observation and practice teaching are offered in the public schools of Brookings.

South Dakota State College is fully accredited in the North Central Association of Colleges and Secondary Schools and credits are honored for certificates in other states on equal terms with those of other institutions of high rank. Graduates of the College are occupying excellent teaching positions in many of the best schools and colleges of South Dakota and other states. The Bureau of Recommendations, which furnishes free placement service to South Dakota State College students and graduates who meet the requirements in Education is located in the office of the Education Department. Eligible students who desire teaching positions should file their applications with the Bureau.

The following is a description of the Education courses offered: Courses 21 to 30 are planned for students of sophomore rank but may be taken by others by permission. Courses 31 to 40 are planned primarily for juniors and courses above 40 are for seniors and graduates.

21a	Introduction to Education	(3, 0, 6) 3 credits	Fall term
			Summer—First term

Selected biological, psychological, sociological and statistical material will be treated in such a way as to give the student not only a survey of the fundamental principles of education but also a good basis for more intensive courses in Education.

21b	Technique of Teaching	(3, 0, 6) 3 credits	Winter term
			Summer—First term

The types of lessons as determined psychologically and pedagogically are analyzed in some detail. Critical study of typical lesson plans and some practice in writing them; observation and criticism will receive some attention.

21c Scientific Methods Applied to Common School Subjects(3, 0, 6) 3 credits Spring term
Summer—First and second terms

This is a course in the psychology and pedagogy of common school subjects. It traces the physical and mental development of children up to the adolescent period and deals in detail with the mental processes involved in the learning of each of the elementary school subjects. Especial emphasis will be placed upon reading.

22a History of Modern Elementary Education(3, 0, 6) 3 credits Spring term
Summer—First term

A short review of medieval social life is followed by a brief survey of schools in medieval cities. Then the vernacular influence of the Reformation and Counter Reformation upon the development of modern social forces, the gradual secularization of social life and education, the reform movements, systems and practices by such men as LaSalle, Lancaster, Rousseau, Pestalozzi, Herbart, Froebel, Spencer and others. Text books: Parker's History of Modern Elementary Education. Lectures and reports.

22b History of Education in the United States(3, 0, 6) 3 credits Spring term
Summer—Second term

The evolution of public school systems in the United States. Special attention to development since the civil war and to present organization and tendencies. Lectures and reports. Textbook: Cubberley's Public Education in United States.

22c History of Education

(3, 0, 6) 3 credits

A survey of Greek, Roman and early Education; Renaissance periods; intensive study of modern educational movements. This course may be substituted for Course 22a or 22b. Textbook: Graves, Student's History of Education or Cubberley, The History of Education.

23 Psychology for Elementary Teachers

(3, 0, 6) 3 credits Fall term

This is a course designed as a first course in educational psychology for those preparing for grade teaching.

24 The Elementary Curriculum

(3, 0, 6) 3 credits Spring term

This course consists of a critical study of objectives in elementary education. Criteria for judging material for grade work will be set up and attention will be given to the selection of proper material.

25 Rural Education

(3, 0, 6) 3 credits Spring term

Rural life conditions, need for rural life organization, fundamental principles involved, noteworthy examples of new type of rural school organization, new curricula, new teacher, new buildings, etc. Lectures, readings, reports and observations. Mr. Wiseman.

26 The Teaching of Rural School Agriculture

(3, 0, 6) 3 credits

Summer—First and second terms

An intensive study will be made of the subject matter in agriculture to be taught in the elementary rural school and of methods to be

used in presenting it. Emphasis will be laid on the local aspects of agriculture and correlations with other subjects. Work will consist of readings, discussions, making outlines of subject matter, lesson plans, collecting and using illustrative material and farm bulletins. Mr. Wiseman.

h 31 Principles of Education (4, 0, 8) 4 credits Fall term

This is a comprehensive and intensive course. It surveys the fundamental principles of education and applies this material to the fields of Secondary Education in some detail. Textbook, lectures and reports. Mr. Williams.

h 31A Introduction to Agricultural Education (3, 0, 6) 3 credits Fall term

This course deals particularly with the organization and administration of departments of vocational agriculture in our high schools. Enough of the history of agricultural education is given so that the student may interpret the problems of today in that field. Study is made of aims, course of study, teacher qualifications, types of schools, etc., under state and federal requirements. Lectures, readings, discussions, special reports and observations. Mr. Wiseman.

h 32 Elementary Educational Psychology (4, 0, 8) 4 credits Winter term

This course gives a survey of the fundamental principles of psychology in connection with educational theory. A study of original tendencies and the nature of the mental processes will constitute an essential part of the course. Required for certification. Lectures, textbooks and collateral readings. Mr. Williams.

h 33 Methods of Teaching in High Schools Summer—First term
(4, 0, 8) 4 credits Spring term

A general course in methods for prospective high school teachers. The course deals with the problems of class room teaching. The following topics are treated: Selection and arrangements of subject matter, class room management, teaching foreign languages, training in expression, in enjoyment, in reflective thinking, individual differences, supervised study, the use of books, laboratory methods, questioning and measuring the results of teaching. Required for certification. Text book: Parker's Methods of Teaching in High Schools. Mr. Williams.

h 34 The Organization and Administration of Secondary Education Summer—First term
(3, 0, 6) 3 credits Spring term

This course deals with the practical problems of high school administration including the relation of the high to the elementary school and to the college; the making of programs, the reorganization of material of the secondary education; social organization; moral instruction and training; the Junior High School; the history and development of this reform movement; the essential elements of the program of studies, its place in the school system. Mr. Williams.

h 35 Genetic Psychology (3, 0, 6) 3 credits Spring term

This course traces mental development as found in animals and in men. The development of the child's mental processes in the early years of his life, with a view to proper methods of education, is given especial attention. Mr. Williams.

h 36 Vocational Education (3, 0, 6) 3 credits Spring term

This course is a survey of the whole field of vocational education. A study is made of the economic and sociological bases for the work and the forces back of the movement with enough of the history to interpret the problems involved. Study is also made of the general types of vocational work, federal and state legislation promoting it, standards set up, teaching vocational work and relations to non-vocational work. Lectures, discussions, readings and reports. Mr. Wiseman.

h 37 Vocational Psychology (2, 0, 4) 2 credits Spring term

The application of the principles of psychology and of mental tests to the problems of the determination of vocational aptitudes. The psychology of suggestion as applied to advertising and to salesmanship. Mr. Williams.

h 38 Abnormal Psychology (3, 0, 6) 3 credits Spring term

A study of subnormality and the common pathological types. The phenomena of duplex and multiple personality and the methods of psycho-analysis will receive some attention. General and special causation of mental unsoundness in relation to childhood, adolescence and adulthood. General principles of diagnosis, management and treatment. Mental hygiene and education. Mr. Williams.

h 39 Ethics (2, 0, 4) 2 credits Spring term

A study of the fundamental principles of conduct and their application to education and to the vocations.

h 41 Advanced Educational Psychology 3 credits Fall term

A study of learning in animals and in man, the conditions and methods of economical learning, the rates and limits of improvement, individual differences, transfer, mental fatigue and mental hygiene. This course gives some attention to individual and group mental tests, to psychological, pedagogical and anatomical age. Prerequisite, course 32 or the equivalent. Mr. Williams.

42a Mental Tests (3, 0, 6) 3 credits Fall term

A critical study of the theories and principles of mental tests and of the tests in use will be made in some detail. Both individual and group tests will receive attention. The selection and classification of pupils on basis of mental and physical ability. Theories of intelligence will be considered critically. Individual differences will receive detailed attention.

h 42b Educational Measurement and Statistics
 (3, 0, 6) 3 credits Winter term
 Summer—First term

A study of the standard test movement in education and of the principal tests designed to measure achievement in elementary and secondary school subjects. Statistical methods will be analyzed and practice given in the use of them. The value of educational measurement to administrators, teachers, to other school officers and to the public. Mr. Williams.

h 43a Education Organization and Administration

(3, 0, 6) 3 credits

Winter term

Summer—First term

This course deals with types of schools, the teaching staff, the tasks of the various school officials, the methods employed in supervision, course of instruction, and school finance. Textbook, lectures, discussions and reports including surveys. Mr. Williams and Mr. Johnson

h 43b Educational Surveys

(3, 0, 6) 3 credits

Summer term

A critical analysis of at least two surveys with rapid reading of at least three others. Criteria for judging surveys will be set up and applied.

h 45 Social Psychology

(2, 0, 4) 2 credits

Fall term

An analysis of mind as it is found operating in the various social groups and the interpretation of the various types of social consciousness for the purpose of arriving at principles of social control. Instincts, sentiments, suggestibility, imitation, invention and group control are essential topics of the course. Text books: McDougall's Social Psychology; Wallass' The Great Society. Mr. Williams.

h 45a Educational Sociology

(3, 0, 6) 3 credits

Fall term

A study is made of the ever changing social order and its institutions, emphasizing the educative functions of each. Study will be made of the increasing social demands on the school as an institution and the demands thru socialization of its organization, curriculum, methods and activities. Special attention will be given to the development of vocational education as a phase of this process. A study of actual surveys will be made. Lectures, discussions, readings and reports. Mr. Wiseman.

h 46 Philosophy of Education

(2, 0, 4) 2 credits

Winter term

An advanced course in which an attempt is made to organize all of the principles of education into a comprehensive theory. Mr. Williams.

h 47 The Curriculum

(2, 0, 4) 2 credits

Spring term

A critical study of objects and material of education applied to common and high school subjects in some detail. Criteria for the evolution of the material will be set up on the basis of present day sociological, psychological and philosophical educational principles. Mr. Williams.

h 48 Industrial Education

(3, 0, 6) 3 credits

Spring term

This course is planned for teachers and supervisors of industrial education, for superintendents and principals, and for others interested in the organization and administration of industrial courses. The course deals with the place of industrial activities and industrial training in the various levels of instruction. Pre-vocational work in the junior high school; unit trade courses in the senior high school; and continuation, cooperative, apprentice, evening and factory schools. Lectures, recitations, readings and reports. Mr. Hartnett.

h 49A Special Methods in Vocational Agriculture

(4, 0, 8) 4 credits

Winter term

This course deals particularly with teaching vocational agriculture in Smith-Hughes schools. aims. course of study. selection and ordering of subject matter, methods in field, laboratory and class room. Special attention given to the home project as type of supervised practice work.

Lectures, required readings, discussions, reports, observations and laboratory work. Mr. Wiseman.

h 49a, 49b **Special Methods of Teaching Home Economics**

(3, 0, 6) 3 credits Fall term

(3, 0, 6) 3 credits Winter term

Prerequisites are Educational Psychology, History of Education and Principles of Teaching. Study of the standards and special methods, types of schools, courses of study, lesson plans, observation reports, school organization and management in relation to home economics teaching. Discussions, observations, readings and demonstrations. Miss McArthur.

h 49TE **The Teaching of English in Secondary Schools**

3 credits Summer First term

h 49TH **The Teaching of History and Civics in Secondary Schools**

2 credits Summer First term

h 49TM **The Teaching of Mathematics in Secondary Schools**

1 credit Summer First term

h 49TP **The Teaching of Physics in Secondary Schools**

1 credit Summer First term

h 49TC **The Teaching of Chemistry in Secondary Schools**

1 credit Summer First term

h 49TB **The Teaching of Biology in Secondary Schools**

1 credit Summer First term

h 49 TCS **The Teaching of Commercial Subjects**

1 credit Any term

h 49PTA **Practice Teaching in Agriculture**

3-5 credits Spring term

h 49PT **Practice Teaching in Elementary and Secondary Schools**

2-5 credits Any term

Arrangements should be made with the Department of Education prior to registration. Mr. Williams and Mr. Johnson.

h 51 **Seminar**

2-5 credits Any term

Investigation of a special problem by each individual student constitutes an essential part of the course. For graduates and advanced undergraduates who satisfy the instructor of their ability and disposition to undertake the work. Time to be arranged.

h 52 **Seminar in Agricultural Education**

2-4 credits Any term

For senior and graduate students. Particular problems dealing with instruction in vocational agriculture will be chosen, such as project work, course of study, farm enterprise analysis, the local survey, etc. A thorough study is made through readings and the work actually carried out, recorded and reported. Individual work. Mr. Wiseman.

Education Club. Monthly meetings first Monday evening of each month. Required of regular faculty members of the Education Department. Open to graduate students and to advanced students in education. Other faculty members are invited to attend and become regular members of the Club, assuming program duties.

Courses in Agricultural Extension Instruction

In order to meet the large demand for instruction in methods of conducting agricultural extension work the following courses have been outlined. These can not be counted as education work towards the requirements for teaching certificates.

The courses are designed as electives for junior and senior students who later expect to engage in some form of extension work as county extension agents, supervisors or subject-matter specialists.

1 History of Agricultural Extension Work

(2, 0, 4) 2 credits Winter term

Origin, history and development of extension work in agriculture and home economics. Plan of organization, administration, methods of financing and relation to county, state, federal governments and to farm organizations. Plan and program of work from the standpoint of community, county and state. Supplementary practical work in visiting county and state phases of extension work in actual operation.

h 2 Extension Methods

(2, 0, 4) 2 credits Spring term

Detailed study of approved methods used in conducting extension work, such as office management, publicity, lectures, extension schools, farms, tours, demonstrations, exhibits, etc. (Course 1 advised as a prerequisite.)

h 3 Training Course for County Extension Agents

Credits to be arranged—Summer vacation.

A practical course of apprenticeship covering a twelve weeks period during the summer vacation and open to either men or women desirous of becoming county extension agents. This is designed to afford prospective extension workers a first hand opportunity to learn the practical aspects of county extension work. Special arrangements should be made with the Director of Extension Service as only a few students can be accommodated.

ELECTRICAL ENGINEERING

PROFESSOR BRACKETT

The purpose of the work offered in Electrical Engineering is to impart to the student a practical knowledge of the principles of applied electricity. A well equipped laboratory is provided for the use of the student to supplement the lecture and recitation work of the class room. The laboratory equipment consists of generators and motors of both direct and alternating current types, transformers and measuring instru-

ments of different types and classes for recording and measuring currents, pressures and speeds. A sixty-cell storage battery is used in connection with the work in photometry. Various types of lamps, arc, and incandescent, lampbanks, rheostats, and other apparatus are also available.

The student will be taught how to set up and adjust for the best conditions of operation all the usual types of dynamos, motors, transformers and standard auxiliary apparatus. Much additional laboratory work will be given to develop a clear understanding of the fundamental principles involved in the design of modern electrical machinery and in the most advanced engineering practice. The knowledge to be derived from this work is very important in the practical operation of electrical machinery and systems, but it cannot be obtained directly under the conditions of commercial service, where most of the apparatus must be used in one way only at all times.

Special elective courses in a wide variety of subjects will be given whenever there is sufficient demand. Additional and advanced work may be taken in practically every line listed below. Classes may also be organized in the study of current electrical journals; telephone engineering; wireless telegraph and telephone; electric traction; electric power stations; long distance transmissions and in other similar lines. The prerequisite, the credit, the time, and other conditions must be passed upon by the proper authorities before any of these classes will be formed.

1a Applied Electricity (0, 3, 0) 1 credit Fall term

Elementary principles of electric circuits; systems of house wiring; underwriters rules and specifications; splicing wires, soldering, etc.; simple tests of electric appliances, and repairing the same. Course given only by special arrangement. Mr. Brackett.

h 3 Electricity and Magnetism (3, 4, 8) 5 credits Fall term

Electric and magnetic circuits; measurements of electric and magnetic properties; principles of dynamos and motors. Prerequisite, Mathematics 5b, Physics 1a, 1b, 1c. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

h 3a Electrical Machinery (3, 6, 6) 5 credits Fall term

Principles of electric and magnetic circuits; direct current dynamos and motors; alternating current generators, motors and trans-

formers; methods of connecting and operating these, all very briefly studied. Prerequisite, same as for Electrical Engineering 3. This course should be taken by engineering students who do not expect to take more advanced electrical courses. Three recitations and two three-hour laboratory periods a week. Mr. Brackett.

Laboratory fee, \$2.00.

h 4 Direct Current Motors and Dynamos (3, 4, 8) 5 credits Winter term

Construction and operation of direct current machines, their characteristics, efficiencies and other properties. Prerequisite, Electrical Engineering 3. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

h 5 Alternating Current Electricity (3, 4, 8) 5 credits Spring term

Laws of alternating currents; inductance; capacity; principles of alternating current generators, motors and transformers. Prerequisite, Electrical Engineering 4. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

h 6 Advanced Alternating Currents (3, 4, 8) 5 credits Fall term

Advanced study of the subjects in course 5; more complete tests of alternating current machines; study of additional types of machines. Prerequisite, Electrical Engineering 5. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

h 7 Electric Lighting (3, 4, 8) 5 credits Winter term

Cost of producing electric power; distribution; wiring; types of lamps; location of lamps for interior and street lighting. Prerequisite, Electrical Engineering 6. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

h 8 Electric Transmission and Power (3, 4, 8) 5 credits Spring term

Uses of electric motors; advantages of different types; individual and group drives; transmission; converters; substations; regulating apparatus. Prerequisite Electric Engineering 7. Three recitations and one four-hour laboratory period a week. Mr. Brackett.

Laboratory fee, \$2.00.

h 9 Dynamo Design (0, 6, 0) 2 credits Winter term

Computation, description and drawings for a direct current dynamo or motor. Prerequisite, Electrical Engineering 5. Six laboratory hours a week. Mr. Brackett.

h 9b Dynamo Design (0, 6, 0) 2 credits Spring term

Course 9a continued. Mr. Brackett.

h 10 Electrical Problems (3, 0, 6) 3 credits Winter term

Special problems on various lines of application. Three recitations a week. Mr. Brackett.

ENGLISH

PROFESSOR MULLENBACH, ASSOCIATE PROFESSOR POWERS,
ASSISTANT PROFESSOR McCARTY, ASSISTANT PROFESSOR
LINE, ASSISTANT PROFESSOR MAGILL.

The required courses in English aim to give the student that command of the English language and literature which every educated person should have. But they are not intended to fit students to be teachers of high school English. Those who intend to teach some English along with their technical work should take 7a, 7b, 7c in the sophomore year and then elect in the junior and senior years at least 6a, 6b, 6c and either 8a, 8b, 8c, or 9a, 9b, 9c. Those who wish to do further work in English should elect as many other courses in English as are available. Any student who wishes to do more than the required work in English should consult the head of the department for advice.

1a, 1b, 1c **Rhetoric**

(3, 0, 6) 3 credits

Each term

The main purpose of this course is to familiarize the student with the principles of rhetoric and to enable him to use them effectively in composition. To this end written work is demanded constantly and is carefully criticized both in the class room and in conferences between the instructor and the individual student. The work is supplemented with reading, in the choice of which the student is allowed considerable latitude. Prerequisite, the English of the high school course; required of all freshmen. Three recitations a week. Miss Mullenbach.

2 **Advanced Composition**

(3, 0, 6) 3 credits

Spring term

This course is given as an elective for those who wish to do further work in composition. Besides being given as a regular course in (a) advanced composition, it may take a variety of other forms depending on the needs and wishes of the majority of the class. It may be given as a course in the writing of (b) farm bulletins, or in the writing of (c) the short story, or as a course in (d) technical composition for engineers. Three recitation a week.

6a, 6b, 6c **Survey of American Literature** (2, 0, 4) 2 credits

Each term

Every student must take this course or English 7a, 7b, 7c in his sophomore year. This course is accompanied by 20a, 20b, 20c. The course is open also as an elective for those who have taken English 7a, 7b, 7c. The method pursued will be similar to that in English 7a, 7b, 7c. Prerequisite, English 1a, 1b, 1c. Two recitations a week. Miss Magill.

7a, 7b, 7c **Survey of English Literature** (2, 0, 4) 2 credits

Each term

Every student must take this course or English 6a, 6b, 6c in his sophomore year. This course is accompanied by 20a, 20b, 20c. The course is also open as an elective for those who have taken English 6a, 6b. This is a general course in literature, having as its main aim to show the student the connection between literature and life. A guiding

manual will be used but the chief emphasis will be placed upon typical selections from representative authors and upon the student's own powers of observation. Special reports, oral and written, upon assigned topics will be required of each student, such reports to be delivered before the class as critical audience. There will also be frequent written recitations. Any student who expects to elect further work in English should take this course in the sophomore year. Prerequisite, English 1a, 1b, 1c. Two recitations a week. Miss Magill.

8a, 8b, 8c English Drama, Through Shakespeare

(3, 0, 6) 3 credits

Each term

The first term of this course will deal with pre-Shakespearean drama; the second and third terms will center upon Shakespeare, all studied from the point of view of development of evolution. No student should begin this course unless he intends to take the full three terms. Students may enter the course at the beginning of the second term but not at the beginning of the third. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); alternates with 9a, 9b, 9c; given in 1923-24; elective. Three recitations a week. Mr. Powers.

h 9a, 9b, 9c Nineteenth Century Poetry (3, 0, 6) 3 credits

Each term

The first term will deal with the poets of the Romantic Movement, the second with Tennyson, and the third with Browning. Students are advised to take the series but may take any single term of the work. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c). Two recitations a week; given in 1924-25. Mr. Powers.

h 10a, 10b, 10c Modern Literature (3, 0, 6) 3 credits

Each term

The first term will be devoted to the study of the drama, the second to the novel, the third chiefly to the short story and poetry. Any term may be taken separately. See general statement following course 12. Prerequisite, English 6a, 6b, 6c or 7a, 7b, 7c; elective. Three recitations a week; given in 1923-24.

h 11 The English Novel

(3, 0, 6) 3 credits

Fall term

This course deals with the evolution of the English novel to about the end of the nineteenth century. The class will read a novel each week. Students are warned that this course will be principally reading and that the expense for text-books is likely to be higher than for other courses. Two hours recitation, remainder reading; prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); elective. Three recitations a week.

12 The English Essay

(3, 0, 6) 3 credits

Winter term

This course will be given either as a study of the general development of the English essay as seen in its chief exponents or as a specialized study of the scientific essay, according to the needs and wishes of the class. Prerequisite, English 7a, 7b, 7c (by permission, 6a, 6b, 6c); elective. Three recitations a week.

Courses 10a, 10b, 10c and 11, 12, 2 form a double interlocking series. Ordinarily, only one of the courses will be given each term, the particular one to be decided by the majority of the class. If, however, there is sufficient demand and the schedule will permit, both courses may be given.

h 13a, 13b, 13c Literature of The Middle West

(3, 0, 6) 3 credits

Each term

This course aims to give a survey of the writers of the Middle West together with the consideration of the social, political and historical ideas which furnished the background for their literary expression. The study will begin with the close of the Civil War and conclude with present day writers. Two recitations a week. Given in 1922-1923.

20a, 20b, 20c Extempore Speaking (1, 0, 2) 1 credit

Each term

Required of all candidates for degrees. This course accompanies English 6a, 6b, 6c and English 7a, 7b, 7c. Practice in various forms of extempore speech. Attention to selection and organization of material. The purpose of the course is to assist the student in acquiring an effective oral style—simple, clear, direct. Weekly extempore speeches are required of the class. Sections limited to 20. One recitation a week. Mr. McCarty.

21a Argumentation and Debating (2, 0, 4) 2 credits

Fall term

The nature, kinds and tests of evidence; structure, brief-drawing. Text book. The analysis of public questions. Practice in debating. The aim is to cultivate power of analytical and constructive thinking and skill in extemporaneous speech. Attention is given to developing a simple, forceful style of delivery. Open to all students of collegiate standing. May be substituted to fulfill the requirement of 20a, 20b, 20c, by special permission. Two recitations a week. Mr. McCarty.

21b Argumentation and Debating (2, 0, 4) 2 credits

Winter term

Continuation of 21a. Greater emphasis placed on actual work of debating. Prerequisite, English 21a. Two recitations a week. Mr. McCarty.

21c Argumentation and Debating (2, 0, 4) 2 credits

Spring term

Continuation of 21a and 21b. Emphasis is placed on the principles and qualities of style; persuasion; ethics of discussion. More forceful and effective delivery sought. Two recitations a week. Mr. McCarty.

21d Inter-Collegiate Debating

Especially for those who expect to represent the College in inter-collegiate debating. Credit determined on basis of work done. As much as four credits may be given to one taking part in an intercollegiate contest, upon recommendation of the instructor in charge. Mr. McCarty.

h 22a Oral Reading and Interpretation of Literature

(1, 0, 2) 1 credit

Fall term

A study of the expression of thought and emotion based upon literary forms. Intended to develop skill in the oral interpretation of emotional and imaginative literature. Elective. One recitation a week. Mr. McCarty.

22b Instruction in Extension Lectures

2 credits

Spring term

Mr. McCarty.

23a Advanced Extemporaneous Speaking and Debate

(2, 0, 4) 2 credits

Fall term

A study of principles of practical public speech as revealed in great American debates; Webster-Hayne debate; Calhoun-Cass debate; Lincoln-Douglas debates. Application of these principles in class debates and in original speeches on subjects of current interest. Elective for

juniors and seniors who have completed courses 20 or 21, and for others by special permission. Hours to be arranged. Two recitations a week. Mr. McCarty.

23b **American Orators and Oratory** (2, 0, 4) 2 credits Winter term

The life of the orator, his relation to his age, and the elements of his power as a Public speaker. The Revolutionary Period, the Civil War Period, and the Reconstruction Period. Contemporary Oratory. Elective for juniors and seniors who have completed course 20 or 21, and for others by special permission. Hours to be arranged. Two credits a week. Mr. McCarty.

23c **The Public Address** (2, 0, 4) 2 credits Spring term

The various forms of public address—Oratory, Eulogy, Political Address, After-dinner Speech, the Occasional Address. The purpose here is to determine the elements of persuasive speech. Original work by members of the class. Open to juniors and seniors who have completed course 20 or 21, and to others by special permission. Hours to be arranged ed. Two recitations a week. Mr. McCarty.

24a, 24b, 24c **Play Production** (2, 0, 4) 2 credits Each term

For those interested in producing plays in high schools, colleges or in community centers. Special attention given to all the details of a well-acted and well produced play. Each student is expected to select, coach and represent one play under the supervision of the instructor. All the important dramatic forms will be studied. Sections limited. Elective. Two recitations a week.

FARM ECONOMICS

PROFESSOR BENEDICT; MR. WAGNER

The courses offered in the Farm Economics Department are designed to give the student a working knowledge of the principles of economics and business management which apply to the practical operation of a farm, and to provide training in the efficient marketing of the product after it is produced; also to provide a basic training for those who wish to make more intensive study of these problems later. More and more the necessity is apparent for introducing into the farming industry the business principles which lead to financial success, and to make more efficient more business-like and more profitable the management of this fundamental industry. The courses in agricultural economics and farm management are planned to give the student an understanding of the methods of organization and management of the more successful farms and of the causes of financial failure or lack of success. The courses are based upon studies made upon actual South Dakota

farms and furnish information which every student contemplating farming, teaching, or extension work should have.

The courses in marketing are designed to give a practical understanding of the principles applying to the successful merchandizing of farm products, and of those factors necessary to the successful operation of cooperative marketing organizations.

It is as necessary to provide for a better and fuller life on the farm as to provide for greater profits. The course in rural sociology is designed to teach the student how to improve the standards of farm living and the social life of farm communities.

1 Agricultural Economics (4, 0, 8) 4 credits Spring term

A study of the economic principles underlying the business of farming; problems of land tenure; land prices; intensive and extensive farming; price movements; changes in production and in population; foreign markets; the problems of maintaining and improving the economic condition of the farmer, etc. Textbook, lectures, readings, reports, and laboratory work. Prerequisite, General Economics. Four recitations a week. Mr. Benedict.

2 Principles of Farm Management (3, 0, 6) 3 credits Fall term

A study of the factors and principles of farm organization which make farms profitable or unprofitable; the efficient use of man and horse labor; coordination of feed production and live stock production; types of farming especially adapted to varying conditions; replanning of farms, etc. Textbook, lectures, readings, and laboratory. Prerequisite, Agricultural Economics, Three recitations a week. Mr. Benedict.

3 Advanced Farm Management (3, 0, 6) 3 credits Winter term

Intensive study of the organization of specific successful and unsuccessful farms; methods of figuring and using production cost data; farm management surveys and interpretation of data. Work with original data, lectures, readings, reports and laboratory. Prerequisite, Principles of Farm Management. Three recitations a week. Mr. Benedict, Mr. Wagner.

4 Principles of Marketing Farm Products

(3, 0, 6) 3 credits Fall term

A study of the organizations now handling the products of the farm both private and cooperative; grain exchanges, livestock exchanges; local agencies; commission men and houses, etc. A study of the principles underlying all efficient marketing; financing, grading, standardization, advertising, transporting, etc. Consideration of supply and demand and their relation to the problems of marketing. Textbook, lectures, readings, reports, etc. Prerequisite, Agricultural Economics. Three recitations a week. Mr. Benedict.

5 Cooperative Management (3, 0, 6) 3 credits Spring term

A study of the principles underlying the successful management of cooperative organizations; prerequisites for organization of a cooperative; forms of organization; financing, selling, integration, standardization of product, etc. A study of the causes of success and failure in past and present cooperatives. Textbook, lectures, readings, and reports. Prerequisite, Principles of Marketing Farm Products. Three recitations a week. Mr. Benedict, Mr. Wagner.

6 Farm Record Keeping (3, 0, 6) 3 credits Fall term

Laboratory practice in the keeping of practical farm business records, the filing and care of breeding and registration records; the care of business papers; methods of ascertaining production costs, etc. Laboratory and recitation. Three periods a week. Mr. Wagner.

7 Farm Management Problems (1, 0, 2) 1 credit Fall, Winter, or Spring

Discussion of current farm management problems, and preparation of papers on special phases of farm economics, such as objectives in farm cost accounting, the use of farm credit, practical considerations in purchase of land, margins necessary in feeding steers, etc. One recitation a week. Mr. Benedict.

8 Rural Sociology (4, 0, 8) 4 credits Fall term

A study of the rural social structure, conditions of its formation; problems it has raised; and different methods of approaching these problems. The relationship between economic and social phases of our rural problems will be taken up, together with those rural institutions which have played a part in making rural progress possible. Textbook, lectures, social survey reports, etc. Four recitations a week. Mr. Wagner.

FOREIGN LANGUAGES

ASSISTANT PROFESSOR GULLETTE

The methods employed in this department are intended to establish a broad and thorough foundation for literary and linguistic study. Constant reference is made to the relation between English and foreign languages. Thus a more perfect comprehension of our own English language is obtained.

Merely to acquire a good reading knowledge of a modern language or to study a living language from the standpoint of grammar alone no longer suffices in this day and age, when we are advancing more and more towards internationalism.

Our entrance into world affairs compels us to meet and know our neighbors across the sea, as well as those of this continent. Without a knowledge of their languages and customs, an appreciation of these people, their literature, their music,

their art, is almost impossible. Likewise are business relations most difficult.

The time is not far distant when many Americans will be accepting positions in foreign lands, or positions in this country involving foreign business relations, with its consequent need for some knowledge of a modern language.

To meet this need the following courses are offered:

FRENCH

1a, 1b, 1c **French** (3, 0, 6) 3 credits Each term

The formation of French sounds. Lectures, with exercises in the use of the symbols of the International Phonetics. A systematic study of the rules of French pronunciation. Careful drill in inflection in reading French. Intensive drill in grammar, conversation, original composition and writing French from dictation. Memorizing of poems and idiomatic prose. Lectures on French literature, history, geography, art and music. Texts: Frazer and Squair's Shorter Course; *Le Francais et sa Patrie*, Talbot; *Contes Choisis*, Daudet.

2a, 2b 2c **French** (3, 0, 6) 3 credits Each term

Review of grammar and special study of irregular verbs. Advanced work in oral and written composition. Special readings in literature of the 17th and 18th centuries together with novels by contemporary authors. Texts: *La Poudre aux Yeux*, La Bishe; *Le Paris d'aujourd'hui*, Schoell; *Le Livre de Mon Ami*, Anatole France; *Le Bourgeois Gentilhomme*, Moliers.

SPANISH

1a, 1b, 1c **Spanish** (3, 0, 6) 3 credits Each term

The elements of Spanish grammar with abundant oral and written exercises. Special emphasis on dictation. Readings on geography, customs and general information concerning Spain and South America. Texts: *First Course in Spanish*, Olmsted; *Beginning Spanish Reader*, Wilkins; *Spanish Tales*, Hills.

2a, 2b, 2c **Spanish** (3, 0, 6) 3 credits Each term

A more comprehensive survey of form and syntax with more advanced reading. Texts: *El Pajaro, Verde*, Galdos; *Gil Blas*, Le Sage; *Zaragueta*, Carrison-Aza.

HISTORY AND POLITICAL SCIENCE

PROFESSOR HARDING, ASSISTANT PROFESSOR YOUNG, MISS STITES.

The specific purpose of this department is to introduce the student to studies which will make him better prepared to understand and appreciate the institutions in the midst of which he lives and of which he is a part. The social sciences, in addition to their cultural value, furnish valuable training

for citizenship and community leadership. The study of these sciences should encourage breadth of view, historic-mindedness and fairness of judgement. Constant endeavor is made to teach the practical applications of the social, political and economic experiences of the race to the problems of modern life.

Students are urged in every way to make use of the college library, which is the tool house of the department.

1a, Modern History (3, 0, 6) 3 credits Fall term
Political and social history of Europe from 1500 to 1789. A survey of the sixteenth century Europe, dynastic and colonial rivalry, European society and governments in the eighteenth century. Text book, readings, papers and reports. Prerequisite, sophomore standing. Three recitations a week. Miss Young.

1b Modern History (3, 0, 6) 3 credits Winter term
Continuation of History 1a. History of Europe from the French Revolution to 1870. French Revolution and Napoleon; era of Metternich; democratic reform and revolution; growth of nationalism to 1870. Prerequisite, History 1a. Three recitations a week.

1c Modern History (3, 0, 6) 3 credits Spring term
Continuation of History 1b. The German Empire; France under the third republic; the new imperialism; the British Empire; international relations and the outbreak of the Great War, 1914. Prerequisite, History 1b. Three recitations a week. Miss Young.

2a, 2b, 2c English History (3, 0, 6) 3 credits Each term
A study of the development of England and the British Empire from origin to the present with special attention to the evolution of political institutions and to current problems. Prerequisite, college standing. Three recitations a week. Miss Young.

3a Industrial History of the United States (3, 0, 6) 3 credits Winter term
A general survey of the growth of industry, agriculture, commerce, transportation, population and labor in the United States from the period of beginning until 1860. Prerequisite, sophomore standing. Three recitations a week. Text book, supplemented by library readings, reports and papers. Mr. Harding.

3b Industrial History of the United States (3, 0, 6) 3 credits Spring term
Continuation of course 3a. American economic development from 1860 to the present time. Prerequisite, History 3a. Three recitations a week. Mr. Harding.

4a American History, 1783-1829 (4, 0, 8) 4 credits Fall term
A standard course in American history, with special emphasis upon political development, constitutional growth and the development of interests and ideals. Prerequisite, sophomore standing. Four recitations a week. Miss Young.

4b American History, 1829-1865 (4, 0, 8) 4 credits Winter term

Continuation of History 4a. The political and constitutional history of the United States from the beginning of Jackson's administration to 1865. The national democracy, anti-slavery movement, slavery in the territories, secession and Civil War. Prerequisite, sophomore standing. History 4a advised but not required. Four recitations a week. Miss Young.

5 Latin American History (3, 0, 6) 3 credits Spring term

A study of the development of the countries and peoples of Latin America with a view to understanding their present political and economic conditions. Prerequisite, sophomore standing. Three recitations a week. Miss Young.

6 Diplomatic History of the United States.

(3, 0, 6) 3 credits Fall term

A study of the origin and evolution of the foreign policy of the United States, including the formation and evolution of the Monroe doctrine, Anglo-American relations, imperialistic tendencies, the new Pan-Americanism, war aims of the United States, the United States in the Peace Conference, the League of Nations issue, and the after war tendencies of American foreign policy. Prerequisite, two courses in either history or government and junior standing. Three recitations a week. Mr. Harding.

7 Industrial and Social History of England.

(4, 0, 8) 4 credits Fall term

Economic history of England from 1066 to the present time, emphasizing the transition from medieval to modern economic organization, and contemporary matters, especially the development of the Labor Party and social legislation. Four recitations a week. Open to juniors and seniors and to sophomores who have had freshman English History. Miss Stites.

8 Industrial History of the United States

(4, 0, 8) 4 credits Spring term

A study of the industrial development of the United States since 1860, introduced by a rapid survey of the earlier economic development of the nation. Emphasis will be placed on the economic history of American agriculture. This course is designed for agricultural students. Prerequisite sophomore standing. Four recitations a week. Readings, class discussions, reports. Should be preceded by course 11a or by courses 4a, 4b. Prerequisite, sophomore standing. Four recitations a week. Mr. Harding.

11a American Government (4, 0, 8) 4 credits Fall term

A general survey of the principles and practices of American National Government. Lectures, textbook, reports and discussions. Prerequisite, sophomore standing. Mr. Harding.

11b American Government (4, 0, 8) 4 credits Winter term

State and local government; constitutional basis of state government; organization, functions and popular control; special attention given to the county, township and city organization, with application to South Dakota. A textbook course with reports, collateral reading and

informal discussion. Prerequisite, sophomore standing. Course 11a advised, but not required. Four recitations a week. Mr. Harding.

12 Political Parties and Party History (4, 0, 8) 4 credits Spring term

This course is a study of American political parties and practical politics. History of political parties, party machinery, party morality, party problems, the suffrage, the spoils system, civil service reform, practical politics in legislative bodies, reform of the party system. Readings class discussions, reports. Should be preceded by course 11a or by courses 4a, 4b. Prerequisite, sophomore standing. Four recitations a week. Mr. Harding.

h 13 Comparative Government (4, 0, 8) 4 credits Spring term

A comparative study of the governments of leading modern nations. It deals not alone with government structures, but with the underlying principles, the motives and the inner spirit of the peoples. Should be preceded by courses 11a and 11b or by courses 1a, 1c. Prerequisite, junior standing. Four recitations a week. Mr. Harding.

h 21 Economics (4, 0, 8) 4 credits Fall term

A standard course in the fundamental principles of economic science. Text book, class discussions and a limited amount of reference work. Prerequisite, junior standing. Four recitations a week. Mr. Harding.

h 31 Sociology (4, 0, 8) 4 credits Winter term

The fundamental principles of social science, including origin of races and institutions, social evolution, the social order, the social mind, social selection, progress and its conditions, social ideas, social control and social pathology. Lectures, readings and discussions. Prerequisite, junior standing. Four recitations a week. Mr. Harding.

h 32 Rural Sociology (4, 0, 8) 4 credits Spring term

A general survey of the field of rural sociology, including the following topics: types of communities, means of communication, movements of population, the rural social mind, rural morality, farmers organizations, rural recreation, religious educational forces, the village in relation to rural life and reorganization of rural social forces. Prerequisite, History 31. Four recitations a week. Mr. Harding.

HOME ECONOMICS

PROFESSOR PIERSON, ASSISTANT PROFESSOR LEATON, ASSISTANT PROFESSOR McARTHUR, MISS WASSON, MISS SEXAUER.

The Home Economics department has been installed in a new building. Equipment has been chosen with the view of making the department and all work therein up to the standard of other state colleges. A practice cottage in which every senior girl will be expected to live a term of weeks to prove and apply what she has learned in home management, has been established and equipped. A cafeteria in connection with the

college dormitories offers opportunity for laboratory work in institutional cooking and management.

New subjects are to be offered which will train students to enter the numerous fields now open to home economics graduates. Among such positions are dietitians, institutional managers, extension workers, commercial food workers, tea room managers, caterers, costume designers, directors of specialty stores, etc. The aim is to reach as many of the young women of the state as possible and give each one a training which will fit her for a home and also give her a profession to follow.

In order that students may fill positions as teachers in the various types of schools, special courses are given in the theory and practice of teaching home economics together with lessons in practice teaching which gives the student experience in conducting classes. Observations and criticisms of each student are made by an instructor. All the requirements of the Smith-Hughes Law for Vocational Education are fulfilled and graduates are given certificates for teaching vocational home economics.

Graduates who have done successful work find no difficulty in getting good positions, either thru the college bureau or otherwise.

Below is given the description of courses offered in the Home Economics department. Other electives will be added as the demand grows for them.

1a; 1b	Food Preparation	(2, 6, 4) 4 credits	Fall term
		(2, 6, 4) 4 credits	Winter term

Principles involved in preservation of food. Laboratory work in canning, jelly making, pickling, etc. Elementary principles in serving of meals. Must be preceded or accompanied by chemistry. Two recitations and six hours of laboratory work a week. Miss Wasson.

Laboratory fee, \$3.00 each term.

1c	Food Preparation	(3, 3, 6) 4 credits	Fall term
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An intensive course covering the principles and technique involved in the preparation of typical foods, offered to freshmen students who have had two years of foods in an accredited high school. Three recitations and three hours of laboratory work a week. Miss Wasson.

Laboratory fee, \$3.00.

- 2a, 2b **Food Preparation** (1, 6, 2) 3 credits Fall term
(1, 6, 2) 3 credits Winter term

Study of foods, manufacture and market conditions. Marketing, planning and preparation of meals; emphasis on cost; nutritive value, economy and efficiency of time, labor and effort. Prerequisite, Food Preparation, 1a, 1b, and Chemistry 1. One recitation and six hours of laboratory work a week.

Laboratory fee, \$3.00 each term.

- 5a, 5b **Dietetics** (3, 3, 6) 4 credits Winter term
(3, 3, 6) 4 credits Spring term

Study of the fundamental principles of human nutrition and the application of these principles under varying conditions of age, environment, etc.; the nutritive value and function of food; the determination of proper food requirements, preparation of reference work from the latest and best material published on the subject of nutrition and dietetics. Prerequisite, Food Preparation 2a, 2b and Organic Chemistry. Three recitations and three hours of laboratory work a week. Miss Pierson.

- 6 **Special Cookery Problems** (2, 4, 3) 3 credits Fall term

Problems concerning questions of today. Comparisons as to the value and efficiency of the fireless cooker, double boiler, steamers, pressure cookers, etc. Study of current and local food problems. Opportunity for work to develop students' resourcefulness. Open to juniors and seniors. Two recitations and four hours of laboratory a week. Miss Wasson.

Laboratory fee, \$3.00.

- 7 **Demonstration Cookery** (1, 4, 1) 2 credits Spring term

To meet demands for better training in extension teaching, lecture work, commercial work and similar fields. Demonstration by instructors, students and specialists from outside the department. Discussion of equipment, organization, methods of procedure, etc. Open to juniors and seniors. One recitation and four hours of laboratory work a week. Miss Wasson.

Laboratory fee, \$3.00.

- 8 **Home Nursing** (2, 3, 4) 3 credits Spring term

Elements of nursing, the methods best employed in the home for the care of children, the sick and aged. Care of the sick, bedmaking, bandaging, simple home remedies and how to meet emergencies, etc. Demonstrations in the hospital with lectures. Open to all women students in the College. Two recitations and three hours of laboratory work a week. In charge of a trained nurse.

Laboratory fee, \$.50.

- 9a, 9b **Elementary Sewing** (1, 6, 2) 3 credits Fall term
(1, 9, 2) 4 credits Spring term

Study of constructive stitches; use and care of sewing machine; use of commercial patterns; mending, patching, construction of undergarments, waists, dresses, etc; budgets; study of materials; hygiene of clothing; etc. One recitation and six hours of laboratory work a week. Miss Leaton.

Laboratory fee, \$.50 each term.

10 Textiles and Laundry (2, 6, 4) 4 credits Winter term

Study of principal textile fibers in various stages from raw fiber to manufactured cloth; weaves; adulterations; economic conditions; budgets; principles and processes in laundry work. Prerequisite, Elementary Sewing and Chemistry 1. Two recitations and six hours of laboratory work a week. Miss Leaton.

Laboratory fee, \$2.00.

11 Dressmaking (2, 4, 6) 4 credits Spring term

Use of dress form, making tight fitted lining, construction of dresses and remodeling. Elements of costume design; suitability of materials, cost, etc. Prerequisite, Elementary Sewing, Textiles and Laundry. Two recitations and six hours of laboratory work a week. Miss Leaton.

12 Dressmaking (1, 6, 2) 3 credits Fall term

Application of the principles of costume design in the construction of blouses, dresses, etc. Problems of remodeling clothing for children and adults. One recitation and six hours of laboratory work a week. Miss Leaton.

14a, 14b Millinery (0, 9, 3) 4 credits Winter term

(0, 9, 3) 4 credits Spring term

Making patterns; construction of frames; covering same; simple trimmings; renovation of hats and materials; retrimming, etc. Prerequisite, Sewing 9a, 9b. Nine hours of laboratory work a week. Miss Leaton.

Laboratory fee, \$1.00.

15a Household Management (3, 3, 3) 3 credits Fall term

The organization and application of all the principles learned in the subjects of the department. A study of efficient housekeeping, budgets and accounts; domestic service, community enterprises, etc. Precedes or accompanies course in practice cottage. Three recitations a week. Miss Pierson.

Laboratory fee, \$1.00 each term.

15b, 15c Home planning and Equipping (3, 0, 6) 3 credits Winter term

(3, 0, 6) 3 credits Spring term

This course comprises a study of styles of domestic architecture, house planning and construction, interior finishing, decorating and furnishing. Each student is given the individual problem of planning, decorating and finishing a modest home. A budget for furnishings is made. Miss McArthur.

16 Practice Cottage (-, -, -) 6 credits

Before receiving a degree all seniors are required to live for a period of twelve weeks in the cottage. The work is planned and done entirely by the students. A home economics faculty member lives in the cottage and supervises the work. Miss Pierson.

17 Institutional Management (1, 6, 8) 5 credits Spring term

Skill in buying, handling, storing and preparing large quantities of food and problems of menu planning, marketing, selection of equipment, management of servants, accounting, etc. Laboratory work in the dormitory cafeteria and thru college functions. Open to seniors. One recitation and three two-hour laboratory periods.

Laboratory fee, \$2.00.

18 Tea Room (1, 6, 2,) 3 credits Spring term
A course in tea room management. Prerequisites, freshman and sophomore courses in foods. One recitation and six hours of laboratory work a week.

Laboratory fee, \$2.00.

Education 49a, 49b Special Methods of Teaching Home Economics
(3, 0, 6) 3 credits Fall term
(3, 0, 6) 3 credits Winter term

Discussions and problems concerning the standards and methods of Home Economics Education in various types of schools. Courses of study, lesson plans, observation reports, special readings and demonstrations before the class. A study of school organization and management in relation to Home Economics. Prerequisite, Psychology, History of Education, and Principles of Teaching. Three recitations a week.
Miss McArthur.

Education 49c Practice Teaching in Home Economics
3-5 credits Any term

This course runs parallel to Education 7a and 7b. Students are given the responsibility of taking part or full charge of classes in sewing and cookery in the public schools, in the School of Agriculture and in the Preparatory Department. Required of students taking Teachers Training Course in Home Economics. Miss McArthur.

HORTICULTURE AND FORESTRY

PROFESSOR HANSEN; ASSISTANT PROFESSOR KEENE

In this department the work is given from two standpoints. From the one, especially in the study of genetics, emphasis is placed upon the general philosophy of the subject as being essential to a general education. The claim is made that some of the principles of horticulture and forestry are essential to any well rounded education and to the best preparation for citizenship. The second standpoint is that of students intending to make a life work of horticulture or forestry, either as a business or a profession. Throughout the course full use is made of the student's attainments in the various sciences underlying these subjects. The variation of plants and their development under the hand of man are considered, as well as their propagation and cultivation.

Field and laboratory exercises emphasize the lectures and recitations of the class room. The habit of independent investigation and close observation is encouraged by requiring written reports of out door excursions or demonstrations. Excellent facilities for practical illustration are offered by the ninety

acres of experiment station horticulture grounds and college campus. In this domain are included orchards, forestry plantations, nurseries, vegetable gardens, small fruit plantations, flower borders and a collection of ornamental plants. Special attention is paid to the breeding of hardy fruits adapted to prairie conditions and the work in this line is now second to none in extent. The department greenhouse consists of two sections, one for the general floriculture work and the other for fruit breeding experiments. In addition the horticulture building contains class rooms, laboratory rooms and storage cellars.

Special stress is placed upon practical work in the grafting room.

The following work is offered:

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|--------|-----------------------------|---------------------|-------------|
| 1a, 1b | General Horticulture | (1, 3, 2) 2 credits | Fall term |
| | | (1, 3, 2) 2 credits | Spring term |

A study of the elementary principles of fruit growing and vegetable gardening, as related to home production, and the planting and care of home grounds. One lecture and one three-hour laboratory period per week. Mr. Keene, five field excursions each term with Mr. Hansen.

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| 2 | Farm Forestry | (1, 3, 2) 2 credits | Fall term |
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A study of the principles of forestry as applied to shelterbelts and woodlots; propagation and growth characteristics of trees; a short course in the identification of the trees in the vicinity of State College. One lecture and one three-hour laboratory period a week supplemented by text and assignments. Mr. Keene.

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| h 3a, 3b | Tree Fruit Culture | (1, 3, 2) 2 credits | Spring term |
| | | (1, 3, 2) 2 credits | Fall term |

The growing of tree fruits, including varieties, soils, fertilizers, spraying, pruning, cultural practices, harvesting and storing. One lecture and one three-hour laboratory period a week. Prerequisite, Horticulture 1a. Mr. Hansen, Mr. Keene.

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| h 4 | Systematic Pomology | (0, 4, 2) 2 credits | Fall term |
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Origin, history and relationship of economic fruits, practice in description and identification of fruits, fruit judging, etc. Two two-hour laboratory periods a week. Prerequisite, Horticulture 1a, 3a. Mr. Hansen, Mr. Keene.

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| h 5 | Small Fruit Culture | (1, 3, 2) 2 credits | Spring term |
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The growing of small fruits, including soils, fertilizers, planting, training, culture, handling and marketing. One lecture and one three-hour laboratory period a week. Mr. Hansen, Mr. Keene.

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| h 6 | Plant Breeding | (1, 3, 2) 2 credits | Spring term |
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The principles of breeding as applied to flowers, vegetables and fruits. One lecture and one three-hour laboratory period a week. Prerequisite, Botany 8. Mr. Hansen.

- h* 7a, 7b **Nursery Practice** (0, 4, 2) 2 credits Fall term
(0, 4, 2) 2 credits Spring term

Propagation and handling of fruit and ornamental plants. Two two-hour laboratory periods a week. Prerequisite, Horticulture 1a, 1b. Mr. Hansen.

- 8 **Landscape Gardening** (1, 3, 2) 2 credits Fall term
General principles of landscape gardening; most common plant material employed; practice in simple plan drawing for home and school ornamentation. One lecture and one three-hour laboratory period a week. Mr. Keene.

- 9 **Floriculture** (0, 4, 2) 2 credits Spring term
Practical methods of growing flowers and other ornamental plants. Two two-hour laboratory periods a week. Mr. Hansen and college florist.

- 10 **Home Vegetable Gardening** (1, 3, 2) 2 credits Spring term
Growing vegetables for home use, including choice of varieties, fertilizers, seeding, transplanting, culture, pest control, harvesting and storing. One lecture and one three-hour laboratory period a week supplemented by text book assignments. Mr. Keene.

- h* 11 **Advanced Vegetable Forcing** (0, 4, 2) 2 credits Winter term
Vegetable forcing in greenhouses, hotbeds, and cold frames. Greenhouse construction and management. Two two-hour laboratory periods a week supplemented by text and assigned readings. Prerequisite, Horticulture 10. Mr. Keene.

- h* 12 **Vegetable Gardening** (0, 4, 2) 2 credits Spring term
Business methods followed by professional truck growers' labor problems, rotations, companion and successive cropping and special problems in production of vegetables for market. Two two-hour laboratory periods a week supplemented by lectures and assignments. Prerequisite, Horticulture 10. Mr. Keene.

- h* 13 **Systematic Olericulture** (2, 0, 4) 2 credits Fall term
Systematic study and description of leading varieties of vegetables. Two lecture periods a week. Prerequisite, Horticulture 11, 12, Botany 2c. Mr. Keene.

- h* 14a, 14b, 14c **Landscape Design** 2 credits Each term
Landscape composition; civic art; advanced composition. Solution of problems in landscape gardening. Prerequisite, Horticulture 2, 8 and 17. Mr. Hansen, Mr. Keene.

- h* 15 **Horticulture Problems** (1, 0, 2) 1 credit Any term
Assigned problems for horticulture, experienced work in greenhouse gardens and orchards, keeping records, etc. Hours for consultation. For seniors. Mr. Hansen.

- 16 **Floral Arrangement and Table Decorations**
(0, 4, 2) 2 credits Winter term

For girls or others interested in floriculture. A study of harmony in colors and the principles and methods of arrangements of flowers for home tables, banquets, festivals, pageants and other special occasions. Two two-hour laboratory periods a week with assignments. Mr. Hansen and college florist.

- 17 **Plant Materials** (1, 3, 2) 2 credits Spring term
 A study of trees, shrubs, and flowers in their relation to landscape work. One lecture and one three-hour laboratory period per week. Mr. Hansen, Mr. Keene.

INDUSTRIAL ART

ASSISTANT PROFESSOR HARTNETT

On account of the growing demand for men to teach the manual and industrial art subjects this department has been added to the State College. By electing this work with that in the mechanical engineering, auto-mechanics and education departments students are well fitted to instruct in the manual art and industrial subjects.

The shops are located in the northeast wing of the Engineering Building, and have the following equipment: band saw, variety saw, jointer, mortiser, grinder, speed lathe and planer, all with individual motor drive, a trimmer, twenty-six individual benches and all the necessary tools.

Industrial Art 2a, 2b, 3, 4 and 5 described below are "limited credit" subjects. However, a student who desires to train himself to teach this kind of work may be permitted by the Classification Committee to elect more of such work towards a degree than the rule governing "limited credit subjects" permits, provided a well balanced scheme of study is outlined.

- 2a **Bench Work** (0, 6, 0) 2 credits Fall or Spring term

This course is open to all college students and is arranged for students who have had little or no experience in this subject. The use of woodworking tools, materials used, fundamental processes, and the use of work drawings will be illustrated by the construction of useful articles made from the student's own drawing and from blue prints. The making and reading of work drawing will be an essential part of this course.

Laboratory fee, 75c per credit.

- 2b **Bench Work** (0, 6, 0) 2 credits Winter term

This course is planned for students who have had at least 2a or equivalent. Plan-drawing continued, emphasis being given to details and isometric representation. Advanced problems in construction, cutting of duplicate parts, cabinet work, the use and care of woodworking machinery, finishing and polishing. Special work will be given to agricultural students and those intending to teach in agricultural high schools.

Laboratory fee, 75c per credit.

- 3 **Wood Turning** (0, 6, 0) 2 credits Any term

The work in wood turning is offered in each term and on account of the equipment the time is arranged for the convenience of the

students. The instruction includes turning between centers, chuck and face plate turning. In addition to the exercises, ornamental turnings are made. Prerequisite, Industrial Art 2a.

Laboratory fee, 75c per credit.

4 Furniture Design (0, 6, 0) 2 credits Spring term

This course is open only to those students who have had at least two terms of collegiate work in the department. It includes the study of the period furniture, turnings and carvings and their proper applications. Cabinet work involving these principles will be constructed. Prerequisite, Industrial Art 2a, 3.

Laboratory fee, 75c per credit.

5 Carpentry (0, 6, 0) 2 credits Spring term

This course is offered in the spring term so that much of the instruction can be given outside of the shop in practical work of construction of buildings. Rafter cutting, window and door frame building as well as plan readings are studied. Prerequisite, Industrial Art 2a.

Laboratory fee, 75c per credit.

6 Farm Shop Work 2-4 credits Spring term

This course is arranged for teachers and students of agriculture and will consist of shop work in wood and metal as they center around farm projects. Some attention will be given to concrete construction, repair of the farm equipment and farm buildings. Problems in equipping farm shops and school shops for teaching farm mechanics will be taken up in this course. Prerequisite, Industrial Art 2a.

7 Concrete Construction (1, 3, 2) 2 credits Spring term

This course is a continuation of Farm Carpentry and is especially valuable to the students of agriculture and teachers of farm shop work. Instruction will be offered in the uses of concrete, mixing and proportioning, protecting and hardening, the re-inforcing of concrete, and the making of concrete forms. Students will make the drawings and forms for a series of projects illustrating the above principles. Prerequisite, drawing and shop work equivalent to 2a.

MATHEMATICS

PROFESSOR BROWN, ASSOCIATE PROFESSOR MILLER, ASSISTANT PROFESSOR McCORDIC, MR. ENKE

The general work of this department is planned to cultivate habits of systematic and accurate thinking, as well as facility in making calculations. Independent effort is encouraged to the greatest possible extent, the solutions of problems and original demonstrations forming an important part of each course.

The department advises general science students choosing major work in the mathematical and physical sciences to elect courses 2, 3, 4, 5a, 5b and 6. Courses 1a, and 1c are arranged

for general science and agricultural students who do not desire to take the five-credit freshman courses.

Students who expect to teach mathematics or do graduate work in the subject are advised to take other courses offered by the department. Those interested should consult members of the department concerning such courses.

1a, 1b, 1c **Mathematical Analysis** (3, 0, 6) 3 credits Each term

A correlated course in college algebra, trigonometry and analytic geometry. Offered for general science and agricultural students who do not desire to take the five-credit courses in college algebra, trigonometry and analytic geometry. Prerequisite, high school algebra and geometry. Mr. Miller.

2 **College Algebra** (5, 0, 10) 5 credits Fall term

Elementary topics, functions and their graphs, review of the quadratic equation, complex numbers, theory of equations, permutations and combinations, partial fractions, logarithms and determinants. Prerequisite, three semesters of elementary algebra. Five recitations a week. Required in freshman Engineering, elective in General Science and the agricultural courses. Mr. Miller, Miss McCordic.

3 **Plane Trigonometry** (5, 0, 10) 5 credits Winter term

The functions of acute angles, the solution of the right triangle, goniometry, the solution of the oblique triangle, general applications of trigonometry. Prerequisite, one year of plane geometry and one and one-half years of high school algebra. Five recitations a week. Required in freshman Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Miss McCordic.

4 **Analytic Geometry** (5, 0, 10) 5 credits Spring term

Co-ordinate systems, projections, loci, the straight line, conics, the general equation of the second degree. Prerequisite, Mathematics 2 and 3. Five recitations a week. Required in freshman Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Miss McCordic; Mr. Brown.

5a **Calculus** (5, 0, 10) 5 credits Fall term

Differential calculus, with application to engineering problems, integration of standard forms, definite integrals, rational fractions, integration by parts. Prerequisite, Mathematics 4. Five recitations a week. Required in sophomore Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Miss McCordic.

5b **Calculus** (5, 0, 10) 5 credits Winter term

The application of calculus to problems involving areas, lines, surfaces, and volumes; successive and partial integration, centers of gravity and moments. Prerequisite, Mathematics 5a. Five recitations a week. Required in sophomore Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Miss McCordic.

6 **Analytic Mechanics** (5, 0, 10) 5 credits Spring term

The application of calculus in the field of pure mechanics. Prerequisite, Mathematics 5b. Five recitations a week. Required in sophomore Engineering, elective in General Science and the Agricultural courses. Mr. Miller; Mr. Brown.

h 7 Solid Analytic Geometry (3, 0, 6) 3 credits Fall term

The application of coordinate systems to geometry of three dimensions. Prerequisite, Mathematics 4. Three recitations a week. Offered primarily for students who are interested in advanced mathematical study and graduate engineering work. Mr. Miller.

h 8 Theory of Equations and Determinants (3, 0, 6) 3 credits Winter term

A study of the theory of determinants, complex numbers, De-Moivre's Theorem, cubic and biquadratic equations. Prerequisite, Mathematics 4. Offered for students who are interested in advanced mathematical study. Mr. Miller.

h 9 Differential Equations (3, 0, 6) 3 credits Spring term

A study of the differential equations with application in the fields of mechanics and physics. Elective in all courses. Prerequisite, Mathematics 5b. Three recitations a week. Mr. Miller.

10 Mathematical Theory of Investment (5, 0, 10) 5 credits Fall term

The application of algebra to problems in interest, annuities, amortization, the valuation of bonds, sinking fund and depreciation, building and loan associations, theory of probability and problems in life insurance. Prerequisite, Mathematics 2, 3 or 1a, 1b, 1c. Offered primarily for those students who desire a knowledge of Mathematics as applied to business. Mr. Miller.

h 11a, 11b Projective Geometry (4, 0, 8) 4 credits Winter term
(4, 0, 8) 4 credits Spring term

A development of the fundamental notions of projective geometry mainly from the purely synthetic standpoint. Prerequisite, two years of college mathematics. Offered for those students who are interested in advanced mathematical study. The course is very desirable for prospective teachers of geometry. Mr. Miller.

20 General Astronomy (3, 0, 6) 3 credits Spring term

The aim of this course will be to familiarize the student with the general non-technical phases of astronomy. Text and a limited use of instruments. Prerequisite, sophomore standing. Three recitations a week.

MECHANICAL ENGINEERING

PROFESSOR SOLBERG, ASSOCIATE PROFESSOR HOY, MR. ANDREWS.

The object of the work offered is to give the students a thorough training in the theoretical principles underlying the science of mechanics and machines and at the same time to enable them to become particularly familiar with some of the numerous applications of these principles.

The instruction is both theoretical and practical. The usual methods of text-book study and lectures are employed, but the student is required to put into practice, as far as pos-

ible, the instruction he receives. Hence the work of the classroom is supplemented and practically exemplified by practice in shops. The student not only studies the theories of constructing and operating machinery, but in the drawing room he designs, and in the shop he constructs and operates such machines. It is believed that those who complete this course will be able to fill responsible positions in manufacturing establishments.

The department is located in the Engineering Building.

The workshops are supplied with a large variety of tools of good quality.

The machine shop is furnished with a large number of engine lathes of different sizes, universal milling machine, shaper, planer, tool grinder, drill press, emery wheels and a great variety of hand tools. The machinery is driven by a 50 horse power steam engine and two motors.

The Experimental Engineering Laboratory is equipped with a 100,000 pound vertical screw testing machine for making tensile and compressive tests of various materials of construction; an automatic shot cement briquette testing machine; a gas engine; a 10 by 10 steam engine. There are also available for this work a 12 by 14 steam engine and two 48 by 16 horizontal boilers; a calorimeter for determining the heat of gases; a calorimeter for making British thermal unit tests of coal, and an apparatus for flue gas analysis.

The laboratory also possesses a large amount of small apparatus such as indicators, planimeters, steam gauges, thermometers, etc., and a complete outfit for making tests of sand, cement and concrete.

Work in all architectural drawing and designing is offered.

Additional work along this line will be given to students who desire it.

The following work is offered:

1a, 1b, 1c Forging	(0, 6, 0) 2 credits	Any term
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Demonstrations and work in the care and use of the fire and forging tools, together with the work in iron, mild steel and tool steel. The class work will include in-bending, drawing-out, upsetting, shaping and tempering of tools, and art-smithing. The course will offer a good outline in metal work for manual training. Open to all students. Three

hours a week for each credit. Limited credit subject. Mr. Andrews.

Laboratory fee \$.75 per credit each term.

2a, 2b **Machine Shop** (0, 9, 0) 3 credits Winter term
(0, 9, 0) 3 credits Fall term

Includes a study of the material used in machine work, shop sketching, methods of laying out work, and the elementary principles of machine work; problems involved in the use of various machine tools. Regular text book and class room work supplements the actual work in the shop. Open to all students. Three hours a week for each credit. Mr. Hoy.

Laboratory fee \$.75 per credit each term.

3a, 3b **Engineering Drawing** (0, 9, 0) 3 credits Fall term
(0, 6, 0) 2 credits Winter term

Instrumental and geometrical problems and parts of machines. Open to all students who have had high school mathematics. Three hours a week for each credit. Mr. Solberg.

4a, 4b, 4c **Architectural Drawing** (0, 6, 0) 2 credits Any term

Rendered drawings of simple buildings, examples of various orders, giving facility in draughtsmanship, familiarizing students with principles introduced in practical problems, exercises in composition and details. Open to all students who have had high school mathematics. Three hours a week for each credit. Mr. Solberg.

5 **Descriptive Geometry** (0, 6, 0) 2 credits Spring term

Instruction in methods of representing by drawing all geometrical magnitudes and solution of problems relating to these magnitudes in space. Prerequisite, plane geometry. Six hours a week recitation and drawing work. Mr. Solberg.

6 **Machine Design** (0, 9, 0) 3 credits Winter term

Solution of various problems involving the design of simple parts of the machine. Prerequisite, Mechanical Engineering 3a, 3b. Three three-hour laboratory periods a week. Mr. Solberg.

7 **Elements of Mechanism** (4, 0, 8) 4 credits Spring term

Elements of machinery, velocity ratios, graphic representation of speed and acceleration; motion transmitting parts, such as gears, belts, cams, screws, link work; automatic feeds, paralleled and quick return motions; designing. Prerequisite, Mathematics 3. Four recitations a week. Mr. Solberg.

h 8 **Machine Design and Kinematics** (0, 9, 0) 3 credits Fall term

Continuation of Machine Design and problems in the design of motion transmitting appliances. Prerequisite, Mechanical Engineering 7.

h 9a, 9b **Steam Engines and Thermodynamics**

(3, 0, 6) 3 credits Fall term

(3, 0, 6) 3 credits Winter term

Study of the modern steam engine, slide valve, and when in combination with independent cut-off valves, link motion and Zeuner diagrams, reciprocating parts and indicator practice; the principles of the theory of heat which are necessary to a study of the various kinds of heat engines; the application of laws of thermodynamics to the steam engine and a study of steam engine economy by entropy temperature analysis and by other graphical methods. Prerequisite, Mathematics 5a, 5b. Three recitations a week. Mr. Solberg.

h 10 Steam Boilers (3, 0, 6) 3 credits Spring term

Advantages and disadvantages of using the various forms of boilers, methods of construction, tubes, plates, riveting, bracing, grate and heating surfaces, gauges and feed appliances, setting, care and operation. Prerequisite, Mechanical Engineering 9. Three recitations a week. Mr. Solberg.

h 11 Engineering Design (0, 15, 0) 5 credits Winter term

Continuation of Mechanical Engineering 8, with special reference to steam machinery. Solution in the drawing room of some practical problems in design and making working drawings of same. Five three-hour laboratory periods a week. Mr. Solberg.

h12a, 12b, 12c Engineering Laboratory (0, 6, 0) 2 credits Each term

Testing of materials of construction, including investigation of problems in connection with use of concrete; testing gauges, thermometers and Prony brakes; and complete efficiency tests of engines and gas engine indicators; throttling and separating calorimeters, dynamometers and Prony brakes; and complete efficiency tests of engines and boilers under actual running conditions. Prerequisite, Mechanical Engineering 9 and 10, and Civil Engineering 6. Six hours of laboratory work a week. Mr. Hoy.

Laboratory fee, \$2.00 each credit.

h 13 Gas and Oil Engines (2, 0, 4) 2 credits Spring term

Study of the theory, design and operation of gas, gasoline and oil engines and of the various types of gas producers. Prerequisite, Mechanical Engineering 9. Two recitations a week. Mr. Solberg.

h 14 Heating and Ventilation (3, 0, 6) 3 credits Winter term

A study of the principles underlying the design of the various systems of heating and ventilation in common use, including such details as loss of heat from buildings, problems in proportioning ventilating ducts; and the arrangement of systems of piping for steam and hot water. Prerequisite, Mechanical Engineering 8. Three recitations a week. Mr. Solberg.

h 15 Power Plant Design (0, 12, 0) 4 credits Spring term

Design of a power station including buildings and roof for an up-to-date plant. Prerequisite, Mechanical Engineering 10. Four three-hour laboratory periods a week. Mr. Solberg.

MILITARY SCIENCE AND TACTICS

CAPTAIN HOWARD, LIEUTENANT BACKES

The primary object of the Reserve Officers' Training Corps is to provide systematic military training as a result of which selected students may qualify for appointment as Reserve Officers in the Army of the United States. Although its primary object is the production of qualified members of the Officers Reserve Corps, its benefits are not limited to young men who complete the entire period of training prerequisite to such appointment. The basic military training received by

those who fail to complete the qualification course is of considerable military value to the government by fitting such students for non-commissioned rank in the Army. It also gives the student a training which will prove valuable in his commercial, industrial or professional career.

The Reserve Officers' Training Corps maintained at this college is made up of two divisions, both infantry—a Senior Division for Collegiate students, and a Junior Division, for students of the School of Agriculture.

There are two courses in the Senior Division, viz. Basic and Advanced. The training in the Junior Division, extending over three years, is basic in nature only, and corresponds, generally, to the basic course (two years) of the Senior Division.

Military Training (3 hours weekly) is compulsory for all physically fit collegiate freshmen and sophomores, and for all physically fit sophomores, juniors and seniors of the School of Agriculture.

The Advanced Course, Senior Division, is selective and elective. It is limited to students who have completed the basic course satisfactorily, and whose mental and moral qualities warrant the belief that, with training, they might become satisfactory officers of the Army of the United States. Such students, selected by the President and the Professor of Military Science and Tactics as eligible for the Advanced Course, are allowed to select it. Those admitted to the Advanced Course are required to enter into a contract with the government to devote five (5) hours a week to military subjects during their junior and senior years. During these years they are paid commutation of rations by the Federal Government, a sum equal to the cost of sustenance for one soldier in the Regular Army—the exact amount being prescribed by the Secretary of War.

Members of the Advanced Course may be appointed Cadet officers. They wear a distinctive uniform, which is paid for by the Federal Government, and which becomes their personal property upon the completion of the two years of training required.

Students may be transferred from the Junior to the Senior Division with proper credit for military training received.

Proper credit is allowed students for military training received in other institutions.

CREDITS

Basic Course, freshman and sophomore years, $1\frac{1}{2}$ each term, 4 each year.

Senior Division

Advanced Course, 3 each term, 9 each year.

Junior Division

1 each year, total 3.

PHARMACY

PROFESSOR SERLES, ASSOCIATE PROFESSOR HOGSTAD,
MR. MORRISON, MR. LE BLANC.

The purpose of this department is to train young men and women in the science of pharmacy. The passage of the Food and Drug Act by Congress, and similar legislation by our own state has placed very great importance on pharmaceutical education. Under the present commercial conditions it is nearly impossible for one to prepare himself to meet the requirements of these laws except by taking a thorough college course.

The demand for educated pharmacists is becoming greater every day. In fact, even at present, some of the states will not allow one to take the examination for registration unless he is a graduate of a reputable school. This department meets both the preparatory and professional requirements of the New York Educational Department with which it is registered in full. It is also a member of the American Conference of Pharmaceutical Faculties.

Medicinal and Poisonous Plant Garden

During the past three years a medicinal plant garden has been developed in order to acquaint the students with the principles of medicinal plant cultivation and the nature and characteristics of a large number of drug plants. The student has the opportunity of noting the various steps employed in principles of medicine plant cultivation and the nature and large number of drugs. Specially designed ovens are employed for the rapid drying of various drugs. The dried, preserved materials are used in connection with the work in Pharmaceutical

Botany, Pharmacognosy, Practical Pharmacy and Drug Analysis.

Below is given a description of the subjects that are offered in the department:

1a, 1b **Pharmaceutical Latin** (2, 0, 4) 2 credits Fall term
(2, 0, 4) 2 credits Winter term

The subject is taught with special reference to its application to titles and prescription practice. First year. Prerequisite, freshman standing. Two recitations a week. Text: Muldoon's Pharmaceutical Latin. Mr. Morrison.

2a, 2b, 2c **Materia Medica** (5, 0, 10) 5 credits Each term

This study embraces a consideration of the medicinal properties, dosage and the description of the official, and the important non-official medicines. Special emphasis is placed on the nature, effect, and treatment of poisons. Second year. Prerequisite, Pharmacy 3, 4a, 4b. Five recitations a week. Text: Potter's Materia Medica and Applied Therapeutics. Mr. Hogstad.

8 **Pharmaceutical Botany** (3, 6, 6) 5 credits Fall term

Designed to acquaint the student with the characteristics of the principal groups of plants, emphasis being placed on their economic value. The course also includes examination of the cell and cell contents, the structure and microscopical technique. A detailed study of many of the important crude drugs and drug plants with respect to the botanical and pharmacognostical characteristics. First year. Two recitations and six hours of laboratory work a week. Text: Younken's Pharmaceutical Botany. Mr. Hogstad, Mr. Morrison.

Laboratory fee \$2.00, deposit \$2.00.

4a, 4b **Pharmacognosy** (2, 6, 4) 4 credits Winter term
(2, 6, 4) 4 credits Spring term

This course embraces a careful study of source, characteristics and constituents of all the crude drugs of the United States Pharmacopoeia, Ninth Decennial Revision, and of the more typical and important ones of the National Formulary. Special stress is laid on the identification of the crude drugs and their respective powers. First year. Prerequisite, Pharmacy 3. Two recitations and six hours of laboratory work a week. Text: Kraemer's Scientific and Applied Pharmacognosy. Mr. Hogstad, Mr. Morrison.

Laboratory fee. \$2.00, with deposit \$2.00 each term.

5a, 5b **Theoretical Pharmacy** (4, 0, 8) 4 credits Winter term
(3, 0, 6) 3 credits Spring term

A study of the comparison of weights and measures of the various systems, and the theory of the application of the methods used in pharmaceutical manufacture. First year. Four recitations a week, first term, and three recitations a week, second term. Text: Remington's Practice of Pharmacy, Volume 1, with lectures by the instructor. Mr. Morrison, Mr. Le Blanc.

8 **Practical Pharmacy** (0, 6, 3) 3 credits Spring term

Preparation of waters, syrups, mucilages, and other galenicals prescribed by the instructor. First year. Prerequisite, Pharmacy 5a. Six

hours of laboratory work a week. Text: Remington's Practice of Pharmacy, Volume 1. Mr. Morrison, Mr. Le Blanc.

Laboratory fee, \$5.00, deposit \$2.00.

7 Theoretical Pharmacy (4, 0, 8) 4 credits Fall term

A careful study of the official inorganic salts and their compounds, solutions, emulsions, powders, pills, ointments and plasters. Second year. Prerequisite, Pharmacy 5a, 5b, 6. Four recitations a week. Text: Remington's Practice of Pharmacy, Volume II. Mr. Serles.

8 Practical Pharmacy (0, 9, 3) 4 credits Fall term

Application of principles in course 7 which it accompanies. Second year. Prerequisite Pharmacy 6. Nine hours of laboratory work a week. Text: Remington's Practice of Pharmacy, Volume II. Mr. Serles.

Laboratory fee, \$5.00, deposit \$2.00.

9a, 9b Dispensing (2, 0, 4) 2 credits Winter term

(0, 9, 0) 3 credits Winter term

This work is so designed so as to acquaint the student with the actual work that comes before him in the store, and gives him the practical side of the work, previously given in lectures on incompatibility and prescription filling. Second year. Prerequisite, all courses of Theoretical and Practical Pharmacy. Two recitations and nine hours of laboratory work a week. Text: Scoville's Art of Compounding. Mr. Serles.

Laboratory fee, \$5.00, deposit \$2.00.

10 Prescription Practice (4, 0, 8) 4 credits Spring term

Special attention will be given to the National and State laws governing the importation, commercial disposition and the medico-legal aspects of prescription practice. Second year. Prerequisite, Pharmacy 9a, 9b. Four recitations a week. Texts and references: Scoville's Art of Compounding; Ruddiman's Incompatibles in Prescriptions; Remington's Practice of Pharmacy; Holland's Toxicology; Sollman's Manual of Pharmacology; Potter's Therapeutics and Materia Medica; National and State Laws. Mr. Serles.

11a, 11b Drug Assaying (1, 9, 2) 4 credits Winter term

(1, 9, 2) 4 credits Spring term

Second year. Prerequisite, inorganic chemistry. One recitation and nine hours of laboratory work a week. Mr. Le Blanc.

Laboratory fee, \$2.00, deposit \$2.00 each term.

h12 Urine Analysis 2, 6, 4) 4 credits Fall term

Each student is required to make a careful and systematic chemical and microscopic study of the urine with sufficient outside reading and lecture work to enable the student in his interpretation of the results which he may find. Third year. Prerequisite, two years' work in pharmacy. Two recitations and six hours of laboratory work a week. Texts and references: Holland's Medical Toxicology; Long and Abderhalden's Physiological Chemistry, and lecture notes. Mr. Serles.

Laboratory fee, \$2.00, deposit \$2.00.

h 13a, 13b Toxicology (2, 6, 4) 4 credits Winter term

(2, 6, 4) 4 credits Spring term

A systematic physiological and chemical study of the more common poisons, together with nature, effects and antidotes for same. Lectures will also be given concerning the medico-legal aspect. Third year. Prerequisite, first and second year pharmacy courses. Two

recitations and six hours of laboratory work a week. Text and references: Authenrieth's Detection of poisons; Holand's Toxicology; Sollman's Manual of Pharmacology; Howell's Physiology; Potter's Therapeutics and Materia Medica; Journal of Experimental Medicine. Mr. Serles.

Laboratory fee, \$2.00, deposit \$2.00 each term.

PHYSICAL EDUCATION AND ATHLETICS

PROFESSOR WEST, MR. ENKE, MISS KENDALL

The importance of physical training is fully recognized by the College and all students are encouraged to participate in the various athletic activities. All freshmen are required to take a physical examination and any defects they may have are brought to their attention. Men of the freshman class are required to take one hour of calisthenics a week in addition to their work in athletics and drill. Credit is allowed for this work. The student association furnishes uniforms to the candidates for the teams in football, basketball and track. The gridiron, the tennis courts, the basketball courts, and the cinder track offer splendid facilities for training and exercise in the various sports. Interclass competition is used to help foster interest in basketball and track athletics. Special courses are open to young men who plan to enter the educational field as athletic coaches. These courses consist of practical demonstrations, lectures, and drills in addition to actual practice coaching in football, basketball and track.

Young women below the junior year are required to take physical training as indicated below. Students taking this work are required to furnish the following articles of dress: black bloomers, stockings, ties, leather gymnasium shoes and white middy with short sleeves in the uniform suit

FOR WOMEN

1a, 1b, 1c	Physical Education	(0, 3, 0) 1 credit	Each term
2a, 2b, 2c	Physical Education	(0, 3, 0) 1 credit	Each term

This course of two years' work, which is required of all women below junior standing, consists of Swedish gymnastics, including light hand apparatus and corrective stall bar exercises, drills, jumping, buck and horse vaulting, games, folk dancing, theory and development of rhythm as a translation of musical construction and note values into bodily movement. Interclass tournaments are played in basketball, volley ball, indoor baseball, and tennis. Two hours a week. Miss Kendall.

PHYSICS

PROFESSOR MATHEWS, ASSOCIATE PROFESSOR HOY

From the fact that physics is a foundation science and that a knowledge of its laws is necessary to every student seeking a scientific training the department has been fitted with rooms, appliances and facilities for instruction equal to those found in the leading educational institutions of the northwest. The following courses are offered:

- 1a General Physics** (3, 3, 6) 4 credits Fall term
 Mechanics of solids and fluids; sound and heat. Prerequisite, high school physics and trigonometry. Three recitations and three hours of laboratory work a week. Mr. Mathews.
 Laboratory fee, \$2.00.
- 1b General Physics** (3, 3, 6) 4 credits Winter term
 Heat continued from fall term, electricity and magnetism. Prerequisite, Physics 1a. Three recitations and three hours of laboratory work a week. Mr. Mathews.
 Laboratory fee, \$2.00.
- 1c General Physics** (3, 3, 6) 4 credits Spring term
 Electricity and magnetism continued from winter term, and light studied. Prerequisite, Physics 1b. Three recitations and three hours of laboratory work a week. Mr. Mathews.
 Laboratory fee, \$2.00.
- 2a, 2b, 2c College Physics** (2, 3, 4) 3 credits Fall term
 General topics in physics discussed with special emphasis upon subjects of practical interest; offered to students in agricultural courses. Prerequisite, high school physics. Two recitations and three hours of laboratory work a week. Mr. Mathews.
 Laboratory fee, \$2.00 each term.
- 3 Household Physics** (2, 2, 5) 3 credits Spring term
 A general review of physics. Emphasis is laid upon the practical application of physical principles in the home. Two recitations and two two-hour laboratory periods a week. Mr. Hoy.
 Laboratory fee, \$1.00.
- h 4 Primary and Secondary Batteries** (2, 3, 4) 3 credits Fall term
 Strong and weak points, care, construction and characteristics of primary and secondary batteries. Prerequisite, elementary physics and plane trigonometry. Two recitations and three hours of laboratory work a week. Mr. Mathews.
- h 5 Teaching High School Physics** (2, 0, 4) 2 credits Spring term
 Methods of presenting subject matter; class and laboratory outlines, selection of experiments, apparatus and equipment. Prerequisite, high school physics. Two recitations a week. Mr. Mathews.
- h 6 Advanced Physics** (4, 3, 8) 5 credits Fall term
 Mechanics of solids, liquids and gases, and sound. Prerequisite, Physics 1a, and Mathematics 5b. Four recitations and three hours of laboratory a week. Mr. Mathews.
 Laboratory fee, \$2.00.

- h 7 Heat** (4, 3, 8) 5 credits Winter term
Prerequisite, Physics 1b and Mathematics 5b. Four recitations and three hours of laboratory work a week. Mr. Mathews.
Laboratory fee, \$2.00.
- h 8 Light** (4, 3, 8) 5 credits Spring term
Prerequisite, Physics 1c and Mathematics 5b. Four recitations and three hours of laboratory work a week. Mr. Mathews.
Laboratory fee, \$2.00.

POULTRY HUSBANDRY

PROFESSOR STEVENSON, MR. PETERSON

The following courses are offered in this department, those given in the School of Agriculture not being indicated.

- 1 Poultry Culture** (2, 3, 4) 3 credits Fall term
A study of the rise of the poultry industry and its importance; the origin of domestic poultry; breeds and varieties of domestic fowl; how to choose a farm for poultry; selection of stock; modern poultry house construction; equipment for the poultry house; yarding and free range; colony and community systems; principles of poultry feeding; various foods for poultry; preparation of rations; management of laying and breeding stock; culling the layers; candling, grading and packing eggs and birds; marketing products. Two lectures and three hours of laboratory work a week.
- 2 Poultry Husbandry** (1, 3, 2) 2 credits Fall term
Elective course. Principles and practice of culling poultry flocks. Judging poultry for utility and standard qualities. Conditioning, fitting and training of poultry for exhibition purposes. Killing, braining and dry picking poultry. One lecture period and three hours of laboratory work a week.
- 3 Poultry Breeding** (2, 3, 4) 3 credits Spring term
The principles and practice of poultry breeding; the management of breeding stock; anatomy and physiology of fowls; formation of eggs and chickens, study of different makes of incubators and brooders; natural and artificial incubation and brooding; care of growing stock; capons and caponizing; marketing of hatching eggs, day old chicks and breeding stock. Practice in operation of incubators and brooders. Two lectures and three hours of laboratory work a week.
- 4 Poultry Raising** (3, 0, 6) 3 credits Winter term
An intensive study of turkeys, ducks, geese, squabs, and guineas, pheasants, etc., including the breeds and varieties, housing principles, feeding, breeding and marketing. Three lectures a week.

PRINTING

SUPERINTENDENT THORNTON, ASSISTANT PROFESSOR HARDING, MR. TOMPKINS, MR. ERICKSON, MR. TROTZIG

Emphasis is laid on practical work in the printing courses. The greater amount of the student's time is spent in actually doing "jobs" of printing.

The plant laboratory is equipped with cylinder and platen presses, automatic fed press, modern type cabinets and type, composing room saws, modern proof presses, Intertype, Linograph and Mergenthaler composing machines and other material found in the average commercial plant.

The subjects taught constitute a college course of general value, but are directly applied to the printing industry, with its widely varied requirements.

1a, 1b, 1c Principles of Typography (3, 6, 3) 3 credits Each term

This course covers basic information and work in hand composition. It is a foundation course for all branches of printing, instructing the student in the lay of the cases, rules and style of straight composition, pulling, reading, and correcting proofs, distribution of type, newspaper styles, punctuation, indentions, dashes, heads, use of caps, small caps, and italics, technical terms, point system, type measurement, figure and leader work, setting type around cuts, simple tabular work, initials, reference marks and footnotes, and plain book pages. Students are advanced according to the difficulty of the "job." Three recitations and six hours of laboratory work a week.

Laboratory fee, \$1.50 per credit.

2 History of Printing (3, 0, 6) 3 credits Each term

This course covers the invention of printing, early master printers and the historic events of their time that had an influence on printing, and the growth of printing in different nations. The history of type faces and many of the machines used in printing is studied. Lectures and reference reading.

3a, 3b Advertising Composition (3, 6, 3) 3 credits Each term

Principles of advertising display, ad type, use of borders, newspaper ads in single and double column and half of full page magazine ads, layouts of ads and instruction for setting, ad cuts. In this course the students issue a complete newspaper, write ads, read proof and make-up forms. The student is advanced according to the difficulty of the ad to set. Prerequisite, 1a, 1b, 1c. Three recitations and six hours of laboratory work a week.

Laboratory fee, \$1.50 per credit.

4 Office Style and Proof Reading (2, 0, 4) 2 credits Each term

This course is intended to teach students how to prepare copy for the printer and to handle poorly prepared copy in a proper manner. Book and newspaper styles, proof reading, spelling and the division of words are studied. The course is outlined to help those who expect to be buyers of printing as well as students in the regular printing courses. Required of all printing students. Two recitations a week.

5 Job Composition (3, 6, 3) 3 credits Each term

Job type faces and proper use, principles of design, use of layout, discussion and criticism of jobs, composition of envelope corners, tags, cards, tickets, letterheads, billheads, statements, labels, posters, lockup of job forms, distribution, and division of color. This is a straight

practical course in job composition. Prerequisite, 1a, 1b, 1c. Three recitations and six hours of laboratory work a week.

Laboratory fee, \$1.50 per credit.

6a, 6b, **Platen Press Work** (3, 6, 3) 3 credits Each term

This course is designed to make the student familiar with platen presses, press mechanism, automatic presses, feeding and makeready for various forms. The course includes instruction in mechanism of different presses, setting of impression screws, adjusting fountain and grippers, oiling and care of the press. Merits of hard and soft tympan, amount of tympan, proper sheets to use for tympan. Adjusting rollers to fountain and form. Care of rollers and roller bearers. Makeready for type forms, linotype forms, small illustrations, envelopes including cutout, mixing forms of type and linotype, half tones, hand-cut overlays, underlaying, typewriter work, lockup of forms, cause of spring in forms, and slurring. Two color work in type and half tones, embossing, perforating, numbering, scoring, die-cutting, halftone printing on bond paper. Kinds of ink, adapting ink to paper, reducing tact in inks, gold and aluminum ink, care of ink. Prerequisite, 1a, 1b, 1c. Three recitations and six hours of laboratory work.

Laboratory fee, \$2.00 per credit.

7a, 7b, 7c, **Composing Machines** (5, 10, 5) 5 credits Each term

Care and action of the intertype, linograph and linotype machines, studying the machine as a whole. Removing cam frames and keyboard from machine, removing, cleaning, and adjusting keylevers and keybars, cams and rubber rolls, with full instructions for assembling and replacing on the machine ready to run. Magazine tests and adjustments. Assembler mechanism. Care and adjustments of spaceband box, assembling elevator, vice automatic, second elevator, distributor box and distributor, mold disk, trimming knives, and all minor and auxiliary parts. Careful attention is given to the proper ways of making changes of measure, size of type and size of slug. Use of the micrometer and measuring strings of type. Electric, gas and gasoline heating appliances are explained. There are five recitation a week and students must spend at least two hours a day, except on Saturday, in keyboard practice. Every Saturday morning four hours are spent in caring for machines and dismantling them. Prerequisite, 1a, 1b, 1c, 2, 3a, 3b, 4, 5, 6a, 6b.

Laboratory fee, \$4.00 per credit.

8a, 8b **Cylinder Presswork** (3, 6, 3) 3 credits Each term

This course makes the pressman familiar with black work and specializes him on grade halftones, vignette, and process color, and registering forms, with particular attention to fast, accurate makeready on type and plate forms. Locking forms on press, patentblocks, laying plates, register, tint blocks, springy forms, slurring. Makeready on mixed forms, continuous book forms, perforating, cards, halftones, hand-cut overlays, mechanical overlays, underlaying, two-color register work, vignette, new process overlays, Duro overlays, chalk overlays, use of hard packing, preventing offset, process color work, mixed forms of halftones, vignette and process plates, use of Hacker Type High Gauge, care of stock in color printing. Prerequisite, 1a, 1b, 1c, 6a, 6b. Three recitations and six hours of laboratory work a week.

Laboratory fee, \$2.00 per credit.

9 Cost and Systems (2, 0, 4) 2 credits Each term

Cost-finding systems adapted to various sizes and kinds of printing plants are studied in detail. The figuring of cost, the economic routing of work through the plant, purchase of stock and other supplies. The Franklin Price List of Printing and the Typothetae Standard Guide are used. Required of all printing students. Lectures and reference reading. Two recitations a week.

10 Fine Printing (2, 4, 2) 2 credits Each term

A study of the best class of printed matter, including motto cards, calendars, hangers and high grade catalog and commercial printing. In this course emphasis is laid on legibility, and that type is made to read. Two recitations and four hours of laboratory work.

Laboratory fee, \$1.50 per credit.

11a, 11b Shop Organization and Management

(2, 10, 4) 4 credits Spring term

(2, 10, 4) 4 credits Winter term

This course includes the selection of material and equipment for a complete printing plant. Arrangement of plant, office systems, lay-out of work for composing room, press room, and bindery and the general supervision of work going through a plant. The course involves actual executive responsibility in the printing plant of the school. Lectures and discussions.

VETERINARY SCIENCE AND BACTERIOLOGY

PROFESSOR LIPP, MR. TAYLOR, MR. REDFIELD

The development of our complex systems of livestock farming and transportation has increased the rapidity with which animal diseases spread over wide areas. Thru the necessity of protecting their own interests, farmers and stockmen are paying more attention to all that relates to animal disease prevention than ever before. The following veterinary courses are planned to meet this demand. No attempt is made to teach diagnosis or treatment, since these arts belong to the practicing veterinarian. But every effort is made to teach the principles underlying animal disease prevention, and the methods for their practicable application. The following courses, except Applied Embryology, are arranged in logical sequence. No student will be permitted to register for any of these courses unless he can satisfy all the prerequisite requirements.

VETERINARY SCIENCE**1 Veterinary Anatomy (2, 0, 4) 2 credits Winter term**

The anatomy of the digestive, respiratory, circulatory, excretory and reproductive systems of domestic animals. Three recitations a week. Dr. Lipp.

- 2 **Veterinary Physiology** (3, 0, 6) 3 credits Spring term
The physiology of digestion, respiration, circulation, excretion and regeneration. Three recitations a week. Prerequisite, junior standing. Dr. Lipp.
- 3 **Veterinary Pathology** (3, 0, 3) 2 credits Winter term
Common disease processes as they occur in the farm animals. Three recitations a week. Prerequisite, junior standing. Dr. Lipp.
- 4 **Non Contagious Diseases** (3, 0, 3) 2 credits Spring term
The causes and methods of preventing most prevalent non-contagious diseases of farm animals. Three recitations a week. Prerequisite, junior standing and Veterinary 1, 2, and 3. Dr. Lipp.
- 5 **Contagious Diseases** (3, 0, 6) 3 credits Winter term
The causes and methods of preventing the most prevalent contagious and infectious diseases of farm animals. Three recitations a week. Prerequisite, junior standing and Veterinary 1, 2, 3. Dr. Lipp.
- 6 **Applied Embryology** (2, 0, 2) 1 credit Fall term
The development of the fetuses of domestic animals, with special reference to the development of the digestive, respiratory, circulatory and genito-urinary systems. Two recitations a week. Dr. Lipp

BACTERIOLOGY

Progress in the development of the science of bacteriology during the past decade has been so rapid and its relation to everyday life so intimate, that a knowledge of the subject is of fundamental importance to every one who aims to possess a broad general education. While the course is not intensive enough to gain advanced standing by those who later pursue the study of medicine or any other profession in which bacteriology plays an important part, every effort is made to give the student an insight into the underlying principles of the science, and their application to problems of health and the various arts and industries.

- 1 **General Bacteriology** (2, 6, 4) 4 credits Each term
The characteristics of growth, staining, and microscopic appearance of many of the most common bacteria. Also a consideration of their excretory products and their action, and the theories of resistance and immunity. Two recitations and two laboratory periods a week. Prerequisite, sophomore standing. Dr. Taylor, Dr. Redfield.
Laboratory fee, \$5.00.

ZOOLOGY-ENTOMOLOGY

PROFESSOR SEVERIN; ASSISTANT PROFESSOR GILBERTSON,
ASSISTANT PROFESSOR O'ROKE; Mr. GILCREAST

The subjects offered by the zoology-entomology department are planned to meet the needs of three classes of students: first, those who wish to specialize in some phase of this work; second, those who must receive a fundamental training in the work of this department in order that they may pursue certain branches of study, such as human or veterinary medi-

cine, pharmacy, home economics, animal husbandry, horticulture, etc.; and third, those who desire merely to acquire a knowledge of the fundamental facts and principles of zoology and entomology.

The work of this department is conducted by means of lectures, recitations, laboratory and field work. The student is thus afforded not only an opportunity to gain familiarity with the principles and theories discussed in the class room, but is also encouraged to put these theories to the test and verify the principles in the field.

The laboratories are well supplied with apparatus and illustrative materials. The apparatus includes compound microscopes, binocular microscopes, dissecting microscopes, camera lucidas, paraffin baths, incubators, microtomes, physiological apparatus, photographic apparatus, spray machinery and accessories, etc. As to illustrative materials, in addition to the general museum and entomological collections, there is a large series of charts, skeletons, formalin and alcoholic preparations, wax models, lantern slides, microscopic preparations, a complete line of insecticides and fungicides, a collection of approximately 500 Riker mounts illustrating the life cycle of injurious insects, etc.

The library and entomological collections of the State Entomologist of South Dakota are housed in the zoology-entomology department. These collections are worthy of special mention and are available for general reference work to advanced students specializing in entomology.

ZOOLOGY

1a, 1b	General Zoology	(2, 4, 3) 3 credits	Fall term
		(2, 4, 3) 3 credits	Winter term

This course is planned to give the student a fundamental knowledge of the structures, functions and relationships of animals, how they respond to their environment and their place in human welfare. It constitutes a general survey of animal life, both invertebrate and vertebrate, and serves as an introduction to any course involving a knowledge of the broad underlying principles of biology such as agriculture and home economics. Mr. Severin, Mr. O'Roke; Mr. Gilbertson.

Laboratory fee, \$1.00 each term.

h 2a, 2b	Invertebrate Zoology	(2, 4, 3) 3 credits	Fall term
		(2, 4, 3) 3 credits	Winter term

A general survey of all the phyla of invertebrate animals with an intensive study of the more important groups. Emphasis is placed upon

the morphology, ecology and the economic importance of important representatives of each phylum. The student is given practice in identification work. Prerequisite, Zoology 1a, 1b. Mr. Severin, Mr. Gilbertson.

Laboratory fee, \$1.00 each term.

h 3 Vertebrate Zoology (2, 4, 3) 3 credits Spring term

Comparative structural and functional study of a fish, amphibian, reptile, bird and mammal. This course affords training in dissection that will be of value to those going into advanced zoology or medicine. Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

Laboratory fee, \$2.00.

4b, 4c Manuals and Birds (2, 2, 2) 2 credits Winter term

(2, 2, 2,) 2 credits Spring term

In this course is included a study of the mammals and birds of South Dakota. Special stress is laid upon such birds and mammals as are of considerable economic importance to mankind, either because of their usefulness or harmfulness. An intensive study will be made especially of birds of the state. Many of the laboratory periods will be devoted to outdoor work when identification and behavior studies will be emphasized. Mr. O'Roke.

5 Parasitology (2, 4, 3) 3 credits Spring term

A study of the chief worm and protozoan parasites of domestic animals and man, their habits, life histories and economic importance. This course includes lectures, laboratory work and assigned readings, and should be preceded by Veterinary and Medical Entomology (see course 21). Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

h 6 Organic Evolution (3, 0, 6) 3 credits Spring term

A study of the facts and theories that have led up to our present day knowledge of evolution. Variation, Mendelism, the germ cells, and the origin of species and of the individual are the basis for the discussion of methods and principles. Genetics in relation to human welfare is an integral part of the course. Prerequisite, a standard collegiate course in any of the biological sciences. Open only to juniors and seniors. Mr. O'Roke.

h 7a, 7b Vertebrate Histology (0, 12, 0) 4 credits Fall term

(0, 12, 0) 4 credits Winter term

A course in microscopic anatomy and microtechnical methods, which includes the preparation by the student of a large number of microscopic slides. The latter part of the course consists of the study of tissues from these preparations. Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

Laboratory fee, \$2.00 each term.

h 8 Vertebrate Embryology (2, 4, 3) 3 credits Spring term

A study of the male and female germ cells, fertilization, cleavage, development, origin of the germ layers and initiation and growth of the systems of organs. The pig and chick furnish laboratory material, and the student is required to prepare a series of slides of the former to be used for study. Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

Laboratory fee, \$3.00.

8 Human Physiology (3, 2, 4) 3 credits Spring term

A study of the work of organisms, reproduction, growth and development of the human body. The fundamental physiological processes

such as digestion, excretion, respiration and circulation are demonstrated in the laboratory. Anatomical models and histological slides are used for study of organs and tissues. Prerequisite, Zoology 1a, 1b. Mr. O'Roke.

10a, 10b **Pharmacy Physiology** (2, 6, 4) 4 credits Fall term
(1, 4, 4) 3 credits Winter term

The anatomy and physiology of a mammal will be studied and comparisons made with the anatomy and physiology of man. Each student is required to dissect a mammal. Anatomical models are used for comparisons. Mr. O'Roke.

Laboratory fee, \$2.00 each term.

ENTOMOLOGY

20a, 20b **General Agricultural Entomology**
(2, 4, 3) 3 credits Winter term
(2, 4, 3) 3 credits Spring term

A general course in Entomology adapted for agricultural students. This course deals with a study of the anatomy, physiology, behavior, classification, life history and economic importance of insects. Considerable time will be devoted to a discussion of the major insect pests of South Dakota and of the machinery which deals with state and federal insect quarantine regulations. Insecticides and spraying machinery will also be studied. Mr. Severin, Mr. Gilbertson.

Laboratory fee, \$1.00 each term.

21a, 21b **Principles of Entomology** (2, 4, 3) 3 credits Fall term
(2, 4, 3) 3 credits Winter term

This course is designed for general science students. While the course will include a study of the morphology, physiology and development of insects, the major aim will be to familiarize the student with the classification of insects and with the life history and economic importance of the principal insect pests found in the United States. All students will be required to make field trips for the purpose of collecting and studying insects in the field. Mr. Severin, Mr. Gilbertson.

Laboratory fee, \$1.00 each term.

22 **Veterinary and Medical Entomology** (2, 4, 3) 3 credits Winter term

This course deals with the injurious insects, mites and ticks affecting domestic animals and man. Since insects play such an important part in the transmission of diseases, a considerable portion of the term will be devoted to a discussion of this phase of the work. It is intended that students electing this course also elect Parasitology (see course 5). Prerequisite, Entomology 20a, 20b or 21a, 21b. Mr. Gilbertson.

h 23 **Orchard Entomology** (2, 4, 3) 3 credits Spring term

A course dealing with the life history, development and control of insect and mite pests of fruit-producing plants. Much of the laboratory work will be devoted to a study of spray pumps and the preparation of insecticides and the application of these to the infested plants. Prerequisite, Entomology 20a, 20b or 21a, 21b. Mr. Severin.

Laboratory fee, \$1.00.

h 24 **Garden Entomology** (2, 4, 3) 3 credits Fall term

This course deals with the insect and mite pests of vegetable-garden crops. The recitations and lectures will be devoted to a discussion of the pests, their life cycle, their work and their control, while the

laboratory periods will be devoted to a study of spray pumps, insecticides and the application of insecticides. Prerequisite, Entomology 20a, 20b or 21a, 21b. Mr. Severin.

Laboratory fee, \$1.00.

h 25 Field Crops Entomology (2, 4, 3) 3 credits Spring term

This course is designed to acquaint the student with such insect pests as injure field crops. Through the recitations and lectures the student learns to recognize the pest under discussion; he familiarizes himself with their life cycle and he learns the fundamentals regarding their control. Through the laboratory work, the insects are studied in the field, as are also the insecticides, spray pumps and other apparatus necessary in the control of the pests. Prerequisite, Entomology 20a, 20b or 21a, 21b. Mr. Gilbertson.

Laboratory fee, \$1.00.

26 Household Pests (2, 4, 3) 3 credits Spring term

The greater part of this course will deal with insects that are troublesome in the home. Such pests as clothes moths, buffalo moths, flour and cereals insects, house-flies, blow-flies, cockroaches, fleas, ants, bean weevils, silver-fish, mosquitoes, lice, insects infesting house-plants, etc., will be thoroughly discussed. Other pests such as rats, mice, English sparrows, etc., will also be treated in this manner. Mr. Gilbertson.

h 27 Nursery and Greenhouse Inspection (2, 4, 3) 3 credits Spring term

This course deals with the animal pests of nursery and greenhouse stock and is designed to acquaint the student with these pests, their life history and control. A portion of the term will be devoted to the study of state and federal regulations governing nursery stock. Actual experience of nursery and greenhouse inspection will be required of all students before credit is given in this course. Prerequisite, Entomology 20a, 20b, 23. Mr. Severin.

28 Beekeeping (3, 3, 3) 3 credits Spring term

A general course dealing with the fundamentals of beekeeping. In this course it is expected that each student take charge of a hive and that he adopt a program of caring for his hive as outlined by the instructor. Mr. Gilcreast.

Laboratory fee, \$2.00.

h 29 Systematic Entomology (2, 4, 3) 3 credits Fall or Winter term

This course, while primarily entomological, is designed to be of general use to students of biology. The aim of the course is to give the student a good idea of the methods of insect classification. Each student will be required to do his own collecting and mounting of insects, although the collections of the department will be available to the student at all times for reference work. Prerequisite, Entomology 20a, 20b or 21a, 21b. Mr. Severin.

Special and Secondary Courses

The College offers the special and secondary courses mentioned below. These courses are described on the following pages.

The Courses in Music.

The School of Agriculture Course.

The One Year Course in Commercial Science.

The Tractor and Auto-Mechanics Course.

The Three Months Creamery Course.

Special work in the Industrial Arts.

Special work in the Fine Arts.

Correspondence Courses.

MUSIC

PROFESSOR CHRISTENSEN, ASSOCIATE PROFESSOR PETERSON, ASSISTANT PROFESSOR KOHLER, MISS COUGHLAN, MR. JOHNSON, MISS RINK, MISS SMITH.

The purpose of this department is to give the very best musical training possible at a minimum cost, without sacrificing the high standards of the institution.

It is generally recognized that music is desirable as a part of a liberal education. The emotional is a phase too often neglected in education, although it has so important a part in life. In music one must learn to control his emotions in order to give true expression to the thoughts of the master minds which have so wonderfully woven the beautiful harmonies.

A knowledge of music also serves to give proper balance to an education, the aesthetic side of which is too often neglected.

The work of the department is arranged with the view of supplying the needs more especially of those who wish to broaden themselves and to make music a part of their general education.

Advantages

The hearing of good music is most important in getting a proper musical education. Splendid opportunities in this direction are given in connection with the high grade faculty concerts, and an Artists' course which consists of recitals by some of the best musicians of the country.

In addition to these advantages, the department maintains a Choral Union, a Chapel Choir of twenty-four picked voices, a Men's Glee Club, a Women's Glee Club, a Ladies' Band, a String Quartet, a Symphony Orchestra and a Military Band.

All these organizations appear in concerts during each school year.

The Choral Union has presented Handel's "Messiah" for eight consecutive years. It has also produced "Hiawatha" and "The death of Minnehaha" by Coleridge-Taylor, "Elijah" by Mendelssohn, "The Rose Maiden," "Fair Ellen," "The Redemption," "Faust," the comic operas "H. M. S. Pinafore," and the "Mikado."

Recitals are also given by students at various times during the year and attendance is obligatory upon each student of the department.

Students' Convocation

The Music Students' Convocation is held every month at which programs are given by students or faculty. As this is part of the school work each student of music is required to be present.

Equipment

The department of music occupies rooms in the east portion of the Administration building, adjoining the Auditorium. Its equipment includes three Knabe Grand pianos, one Steinway Grand, one Chickering Grand, one Brambach Baby Grand, and other excellent pianos.

The Auditorium, in which all concerts are given, has a seating capacity of over one thousand. It is equipped with a two-manual Esty organ.

A new Edison phonograph has recently been added to the equipment and a large number of excellent records secured as a nucleus for a library. A Lyon and Healy harp and a two-manual practice organ have also been secured.

Conditions for Entrance

The candidate for admission to the College must be at least fourteen years of age and of good moral character, and must have completed the work of the public schools as far as the ninth grade.

Students of music will be required to take at the same time at least eight hours work outside the department approved by the classifying officer. Students of Public or High Schools may enroll if written permission from their superintendent or principal is presented.

Absences

No lessons will be made up except those missed because of sickness and when reported in advance to the instructor. If absence is necessary for other reasons permission must be obtained from the administration.

Lessons will in no case be made up after the close of the quarter.

In view of the extremely low tuition, lessons missed on account of college holidays will not be made up.

Courses

Two courses are offered by the department.

1. The Preparatory Course.
2. The Collegiate Course.

The Preparatory Course is open to all beginners and consists of rudiments, tone production, formation of correct habits of thought, execution, etc.

The Collegiate Course leads to graduation and consists of four years' work. In this course the student must secure a thorough knowledge of harmony, theory and history as outlined. Upon its completion, the student will be given a diploma in music, provided the entrance requirements to the freshman class of the College have been completed. A certificate of proficiency or merit is awarded at the completion of the junior year.

For convenience, music students who have completed the entrance requirements to the freshman class and one year of the collegiate course in music will be ranked as though they were carrying full college work, provided that in addition to the full collegiate courses in music they carry other college work amounting to twelve credits.

Credit for Work in Music of Collegiate Course

Credit for music is assigned on the same basis as credit for regular college work, that is, three hours' work a week in the class room and in practice counts as one credit. Students are expected to spend six hours in practice in connection with each half-hour lesson.

Credit for work in applied music of the Preparatory Course will be only one half of the credit for the same kind of work in the College Course.

Music credits may be counted towards the degree of bachelor of science according to the rules governing limited credit subjects. This rule prescribes that not to exceed a total of ten credits in music, typewriting, the fine arts and several other lines of work, nor more than three in any one year, may be thus counted. Harmony, history of music and public school

music are not included among these subjects. For further details concerning this matter, see index for reference to "Limited Credit Subjects."

The following credits are awarded for work in the department, each credit representing not less than three hours' work in recitation and preparation:

1. Piano or Organ—2 half hours per week 4 credits per term.
2. Piano or Organ—1 half hour per week 2 credits per term.
3. Voice—2 half hours per week 2 credits per term.
4. Voice—1 half hour per week 1 credit per term.
5. Violin or Cello—2 half hours per week 4 credits per term.
6. Violin or Cello—1 half hour per week 2 credits per term.
7. Wind Instruments—2 half hours per week 4 credits per term.
8. Wind Instruments—1 half hour per week 2 credits per term.
9. Harmony, Counterpoint and Composition—2 half hours per week 2 credits per term.
10. Harmony, etc.—1 half hour per week 1 credit per term.
11. History of Music—1 hour per week 1 credit per term.
12. Music Essentials and Form—1 half hour per week 1 credit per term.
13. Ear Training—1 half hour per week 1 credit per term.
14. Glee Clubs—1 credit per year.
15. Choral Union—1 credit per year.
16. Chapel Choir—1 credit per year.
17. Orchestra—1 credit per year.
18. Ladies' Band—1 credit per year.
19. Public School Music—3 credits per term.
20. Band and Orchestra Conducting—2 credits per term.

COLLEGIATE COURSE IN MUSIC

First Year

	Fall	Winter	Spring
*Applied Music (Major Work) -----	4	4	4
Harmony -----	2	2	2
Choral Union, Orchestra, etc. -----			1
English -----	3	3	3
Foreign Language -----	3	3	3
Military Drill or Physical Culture -----	1	1	1
Electives -----	5	5	5
	18	18	19

Second Year

*Applied Music (Major Work) -----	4	4	4
Harmony -----	2	2	2
History of Music -----	1	1	1
Ear Training -----	1	1	1
History of Music -----	1	1	1
Choral Union, Orchestra, etc. -----			1
English -----	3	3	3

Military Drill or Physical Culture -----	1	1	1
Electives -----	5	5	5
	<hr/>	<hr/>	<hr/>
	18	18	19

Third Year

*Applied Music (Major Work) -----	4	4	4
Counterpoint -----	2	2	2
**Applied Music (Minor Work) -----	2	2	2
Choral Union, Orchestra etc. -----			2
Psychology -----		4	
Music Essentials and Forms -----	1	1	1
Public School Music -----	3	3	3
Electives -----	6	2	4
	<hr/>	<hr/>	<hr/>
	18	18	18

Fourth Year

Applied Music (Major Work) -----	4	4	4
Composition -----	2	2	2
Music Essentials and Forms -----	1	1	1
Choral Union, Orchestra, etc. -----			1
Public School Music -----	3	3	3
Electives -----	5	5	5
	<hr/>	<hr/>	<hr/>
	15	15	16

Studies in **bold faced type** are required for graduation, the others are suggested as electives in a well balanced course.

Voice

ASSISTANT PROFESSOR KOHLER

Vocal instruction is based on the principle of freedom of execution in the production of beautiful artistic tone. The most fundamental subjects bringing the student to the stage where the above will be realized are: (1) Breath control, (2) voice production, (3) diction as applied to singing, (4) phrasing, (5) expression and interpretation.

Special attention is given to the needs of each student, with individual exercises and studies selected to the progress of each voice.

Study will be made of songs and ballads chosen from the best of French, German, English and American composers

*Piano, organ or other instrument, two lessons per week. Major work in voice will receive two credits.

**Piano, organ or other instrument, one lesson per week. For students majoring in piano, minor work of one year in voice or some other instrument is required. For students majoring in voice or instruments other than piano, minor work of one year in piano is required. Minor work in voice will receive one credit.

with strict attention to rhythm, enunciation, phrasing and interpretation.

COLLEGIATE COURSE

First Year—Breath control, teaching the use of the diaphragm, and the proper position for singing. Exercises for the development and placing of the voice. Sieber's thirty-six eight measure vocalizes, manuscript exercises in articulation and phrasing. Easy songs in English.

Second Year—Continued breath work. Scale practice for precision and agility. Studies by Lutgen, Concone, Tosti and Vaccai. German, French, English, and American songs.

Third Year—Voice development continued. Songs in French and English. Arias and duets from operas.

Fourth Year—Exercises continued as above, increasing in difficulty. Recitations and arias from standard oratorios and operas. Advanced songs by American composers. Vocal analysis and vocal pedagogy.

Public School Music

MISS SMITH

An increasing demand for Public School Music has made it necessary to add this course of study to the music department. The present course is offered to supply the need for specially trained music teachers in the grades and high schools.

The course, as planned, covers two years of work. Experienced teachers who are able to pass some of the entrance requirements might complete the course in one year. A certificate will be granted those completing the course.

First Year

1. **Sight Reading**—Ability to read and sing at sight individually using the Latin syllables, music suitable for the sixth year in the public schools.

2. **Dictation**—Study of tone and rhythm. The subject matter of music is presented first to the sense of hearing. An important feature of this course is the development of musical memory and the resulting ability to take down comparatively long phrases after one hearing.

3. **Material and Methods**—Students without teaching experience will receive special attention in primary music, including the treatment of monotones, rote songs, etc.

Second Year

1. **Sight Reading**—Advanced work in reading and singing at sight in part songs and choruses.

2. **Dictation**—Open to the students who have completed one year of harmony. This course includes the completion of the work in melodic dictation, as well as harmonic dictation in two and three parts.

3. **Materials and Methods**—This course is devoted to the teaching and supervision of music in the upper grades and high school. The work of each year is taken up in detail and the problems which confront the grade teacher and supervisor are carefully considered. Observation and practice teaching must be done to complete this course.

Piano

ASSOCIATE PROFESSOR PETERSON, MISS RINK

The study of piano is conducted with a view to balancing more perfectly the training of the mind and the cultivation of technical power. Too often stress is placed upon one or the other, more frequently the latter, to an extreme. Technic is but the means to an end, i. e., the correct interpretation of the masters, and should be so considered.

Special attention is directed from the very beginning to the student's habit of thinking. This is done largely through the method of harmonic analysis and memorizing in an orderly and consecutive manner.

The musical side of the student's personality is brought into action through intelligent and artistic interpretation and its development is materially assisted by his having the opportunity to hear good music, artistically rendered, as often as possible.

In technical development, special work is given for the acquisition of finger strength and independence, a correct position of the hand and purity of tone. Since it is now generally believed that the purest and sweetest tones are secured from direct finger action, this is much emphasized throughout the course.

These fundamental ideas are associated with the principle, the understanding of which is so necessary to the successful teacher, that efforts should continually be made to render the study of the piano less irksome and as intensely interesting to the student as it can be made.

PREPARATORY COURSE

An elementary course is offered to students who are not sufficiently advanced to enter the collegiate course.

COLLEGIATE COURSE

First Year—Etudes of Heller, Czerny, Foote; selections from the Bach suites; easier sonatas by Haydn and Mozart; selected compositions by Mendelssohn, Schubert, Chopin, Schumann, Grieg, MacDowell, etc.

Second Year—Studies from Bach, Suites and Inventions; Heller, Czerny and others; sonatas by Mozart and Beethoven; pieces by Weber, Chopin, Mendelssohn, Schumann, Grieg, MacDowell, Liszt and others; also some of the easier concertos of Mendelssohn, Weber, Mozart, etc.

Third Year—Bach, Well Tempered Clavichord; studies by Foote, Chopin, Liszt; sonatas by Schubert, Weber, Grieg, Beethoven, Chopin;

concert pieces selected from the works of Weber, Mendelssohn, Schumann, Liszt, Rubinstein and the modern French, Russian and American composers; concertos by Beethoven, Rubenstein, Chopin, Schumann, Saint Saens, etc.

Fourth Year—Continuation of above; graduate program prepared, the science of building and arranging programs, advanced work given to develop and broaden the sense of the artistic.

Pipe Organ

ASSOCIATE PROFESSOR PETERSON

A splendid two-manual Estey Pipe organ has been presented to the College by its Alumni and installed in the Auditorium. A two-manual practice organ is now in use and others are to be added to the equipment as needed.

To pursue the study of pipe organ successfully the student should possess a certain facility in sight reading at the piano.

COLLEGIATE COURSE

First Year—Dunham's Organ School, easy pedal studies, organ registration, hymn playing, Bach chorals, easy pieces by standard composers.

Second Year—Buck's pedal phrasing studies; Bach chorals continued, Bach and Mendelssohn preludes and fugues; selected compositions of moderate difficulty from classical and modern schools.

Third Year—Greater works of Bach and Mendelssohn including sonatas, chorals and fugues, Also sonatas by Rheinberger and Guilmant. Pieces by standard composers.

Fourth Year—Continued study of the greater organ works by Bach, Handel, Liszt, Guilmant, Widor; concert work by standard composers. A complete organ recital is required for graduation.

Violin

MISS COUGHLAN

The study of the Violin is systematically developed and due stress is given to technic, tonal production and the art of bowing. Pupils having the requisite ambition are given ample opportunity to acquire these elements of playing. Advancement depends considerably upon natural ability and proper tuition, but principally upon hard work.

COLLEGIATE COURSE

First Year—Two octave scales in all major and minor keys; Sevcik, opus 1, book 1; Schradieck's School of Violin Technic; studies by Wohlfahrt, opus 45, books 1 and 2; solos by Dancla, Sitt, Boehm, Eulenstein and Ernst.

Second Year—Three octave scales in all major and minor keys; Schradieck's School of Violin Technic; Sevcik, opus 7, books 1 and 2;

Kayser's Etudes, opus 20, book 1 and 2; Mazas, opus 36, book 1; solos by DeBeriot, Drdla, Ries, Dvorak, Tschaiakowsky, etc; easy concertos and sonatas by Seitz, Sitt and Gurlitt.

Third Year—Scales in thirds, sixths, octaves and tenths; Sevcik, opus 1, parts 3 and 4; Casorti, Technic of Bowing; Mazas, opus 36, book 2; etudes by Dont and Kreutzer; solos by Wieniawski, Vieuxtemps, De Beriot, Hauser, Hubay, etc.; concertos by Viotti, De Beriot, Rode, etc.

Fourth Year—Advanced work in all subjects; graduate programs prepared; etudes by Alard and Wieniawski; Bach Sonatas; Paganini Caprices; concertos by Mendelssohn, Bruch, Vieuxtemps, Paganini, etc.

Wood-Wind and Brass Instruments

MR. JOHNSON

This department is one of the main factors in developing first class band and orchestra musicians.

Private lessons are given on the cornet, French horn, clarinet, saxophone, trombone, flute, oboe and bassoon.

Special emphasis is laid upon proper breathing and tonguing, band and orchestra routine, and other such technical requisites for the moulding of a true musician.

Harmony

ASSOCIATE PROFESSOR PETERSON

In the study of harmony, the older ideas of harmonizing a given melody or figured bass are discarded. The student is taught from the beginning to write his own melodies for harmonization, thus, while stimulating his originality and inventive ability, taking from the study of harmony that mechanical and superfluous aspect so often too apparent to the pupil, and firmly establishing its proper place in the study of music.

COLLEGIATE COURSE

First Year—Scales, intervals, principal and secondary triads; melody writing, chords of the seventh.

Second Year—Dominant chord of the ninth and diminished sevenths; dominant forms of principal and secondary triads; altered chords and modulation.

Third Year—Counterpoint, single and double; canon and fugue.

Fourth Year—Composition in various rondo forms, sonata or suite; instrumentation.

Harmony is generally conducted in classes of four or five, but those who desire to make more rapid advancement may secure private lessons at special rates, according to the statement upon another page.

Band, Orchestra and Conducting

PROFESSOR CHRISTENSEN

The band is a military organization under the R. O. T. C. All students receive college credits for this work.

The band has a membership of about fifty pieces and has during the past few years played some of the best works by the great masters, including "Mignon Overture" by Thomas, "Second Hungarian Rhapsody" by Liszt, "Roman Carnival Overture" by Berlioz, Ballet music from "The Queen of Sheba" by Gounod, etc.

The Ladies' Band is a big factor in the musical life of State College. This band consists of forty young women who have played for important events such as "The Home-Coming of the 147th Field Artillery" at Sioux Falls and other important engagements and have received flattering comments from every portion of the state. College credits are also given for this work.

The Symphony Orchestra is open to all students of the College who are proficient upon some instrument of the orchestra. A thorough study of classic and modern compositions is afforded. The orchestra plays at all important college functions and has successfully performed Beethoven's Second Symphony, "Ruy Blas Overture" by Mendelssohn, "Fra Diavolo" by Auber, "Caprice Espagnol" by Rimsky-Korsakoff, etc. The orchestra also plays the accompaniments for all choral works given by the Choral Union.

Members of the band and orchestra who wish to learn conducting will be afforded the opportunity to become proficient in this important part of their musical education. This course is open only to students who have had the necessary musical experience. Some knowledge of harmony is necessary.

Music Essentials and Form

ASSOCIATE PROFESSOR PETERSON

Principles of acoustics as applied to musical instruments; the orchestra; musical terminology; analysis of musical forms; simple song forms, arias, ballads and other vocal forms; the more simple forms of dance music, sonatina, sonata, canon and fugue.

History of Music

MISS COUGHLAN

This course follows the development of music and musical instruments from the earliest to the present time. This is a subject in which every music student should be well grounded. Some knowledge of it is essential in the general educational equipment of every person who is at all musically inclined. The phonograph plays an important part in this study.

Ear Training

A special class in ear training and sight reading is included in the four years' course, conducted by a capable and experienced teacher. This study will be required of all music students.

Expenses of Students

The tuition for the regular work throughout the year is listed in the table of fees below and depends upon the instructor, subjects studied, etc.

The terms and prices to the student of the five months course in agriculture will be the same as that for a term and a half, as given below.

FEES

The following fees will be charged a term for instruction:

Mr. Kohler, Mr. Christensen, Mr. Peterson, Miss Coughlan.	
Two half-hour lessons per week -----	\$30.00
One half-hour lesson per week -----	18.00
Miss Rink, Mr. Johnson, Miss Smith.	
Two half-hour lessons per week -----	24.00
One half-hour lesson per week -----	15.00
Conducting in classes of four or more—	
Two half-hour lessons per week -----	7.50
Harmony, Counterpoint and Composition in classes of four or more—	
Two half-hour lessons per week -----	7.50
History, Music Essentials and Ear Training in classes, free to all students taking major work.	
Ensemble in string or piano, in classes of four or more—	
One hour lesson per week -----	5.00
Public School Music in classes of four or more—	
Three one-hour lessons per week -----	8.00
Practice pianos may be used at the following rates per term:	
One hour a day, \$3.00	
Two hours a day, \$5.00	
Three hours a day, \$6.50	
Four hours a day, \$8.00	

Organ Practice—

Practice organ, per hour	10
Large pipe organ, per hour	25

THE SCHOOL OF AGRICULTURE

October 22, 1923 to March 12, 1924

The School of Agriculture has for its specific purpose the training of young people for the life and work of the farm and home, for the social life of the rural community and for American citizenship.

The farmers' boys and girls are often needed on the farm and in the homes to help the parents during the busy season of the year. They can usually be spared from such work during the winter season, and may well spend this time in study which will prepare them for practical, profitable farming and successful home management.

While the subjects of study consist primarily of those that relate to farming and household economy, they include also such subjects as are usually given in a regular high school course—for example, English, mathematics, history, civics, chemistry, physics and biology. The technical topics include studies of soil, plants and crops, domestic animals, feeds and feeding, cooking and sewing, laundering, farm and home management, records and accounts, carpentry and blacksmithing. Text books are used when these aids best answer the purpose. Lectures are given in the subjects which can be most efficiently taught in this way. Demonstrations are given in the class rooms, laboratories, orchards and fields. The School of Agriculture welcomes earnest and worthy young men and women from all parts of the State who have passed the eighth grade in the public schools and are willing to work in such a course of mental and manual training as will prepare them for life's labors, on the farms and in the homes of South Dakota.

The tuition is ten dollars for the year, with a small fee for each laboratory in which work is taken. (See list of laboratory fees following schemes of study.)

Those interested in the School of Agriculture should write to the College for special bulletin, addressing the Registrar, State College, Brookings, South Dakota.

Students of the School of Agriculture may earn credit during their summer vacation by completing work in agriculture or home economics provided this is done in accordance with the plans and under the supervision of the committee having charge of the summer project work. Those who wish to do such work should consult the Principal of the School of Agriculture for information as to how to proceed.

While the School of Agriculture work has not been outlined primarily as a preparation for college entrance, graduates of the school who enter the college courses will receive entrance credit for their work. The completed work of the four years course will count for ten of the fifteen units required for entrance. High school credit which has not been applied towards graduation in the School of Agriculture may be applied directly towards college entrance. School of Agriculture students who earn more credit than the minimum of 84 hours for graduation may apply this surplus credit towards college entrance. Completed summer project work may be applied as electives on the School of Agriculture course, and thus allow the student to elect subjects which may be applied directly towards college entrance.

Outline of the Four Years Course for Young Men

First Year

	Rec. per wk.	Hrs. per wk.	Lab. Credit
English I -----	4		4
Farm Arithmetic or Algebra -----	4		4
Military Drill and Physical Training -----		3	1
Animal Husbandry -----	2	4	4
Farm Crops (Cereals) -----	2	4	4
Carpentry or Forging -----		4	2
Horticulture -----	1	2	2
Hygiene -----	1		1
Farm Machinery and Motors -----		2	1
Summer project 1 to 3 credits optional -----			

Second Year

English II -----	4		4
Plant Life, or -----	2	4	4

Algebra I or II -----	4		4
Military Drill and Physical Training -----	3		1
Dairying -----	2	2	3
Farm Crops (Forage Crops and Seeds) -----	3		3
Livestock Production and Management -----	2	2	3
Civics -----	3		3
Poultry -----	1	2	2
Veterinary Science -----	2		2
Summer project 1 to 3 credits optional			

Third Year

Chemistry -----	2	2	3
Military Drill and Physical Training -----		3	1
Soils -----	2	4	4
Feeds and Feeding -----	3		3
Rural Organization -----	3		3
Farm Management -----	3	0	3
Zoology -----	1	4	3
Elective -----			4
Summer project 1 to 3 credits optional			

Fourth Year

English IV. -----	4		4
Military Drill and Physical Training -----		3	1
Entomology -----	1	2	2
Industrial History -----	4		4
Elementary Physics -----	3	2	4
Elective -----			8
Summer project 1 to 3 credits optional			

Electives for Third and Fourth Years

Advanced Blacksmithing -----		4	2
Live Stock Practice -----		4	2
Algebra -----	4		4
Geometry -----	4		4
Advanced Soils -----	2	4	4
Advanced Dairying -----	2		2
Cement Construction -----		4	2
Public Speaking -----	1		1

Outline of the Four Years Course for Young Women

First Year

	Rec. per wk.	Hrs. per wk.	Lab. per wk.	Credit
Hygiene -----	1			1
Poultry -----	1	2		2
English I -----	4			4
Arithmetic or Algebra -----	4			4
Freehand Drawing -----		4		2
Food Study -----		6		3

Physiology -----	3		3
Physical Training -----		2	1
Summer project 1 to 3 credits optional			

Second Year

Civics -----	3		3
English II. -----	4		4
Plant Life or -----	2	4	4
Algebra -----	4		4
Craft -----		4	2
Elementary Dressmaking -----		6	3
Food Preparation and Service -----		6	3
Textiles and Laundry -----	2	2	3
Physical Training -----		2	1
Summer project 1 to 3 credits optional			

Third Year

Home Gardening -----	1	2	2
Dairying -----	2	2	2
Elementary Chemistry -----		6	3
Dressmaking -----		6	3
House Problems -----		6	3
Elementary Dietetics and Table Service -----		6	3
Physical Training -----		2	1
Art Needlework -----		4	2
Rural Organization -----	3		3
Summer project 1 to 3 credits optional			

Fourth Year

English IV. -----	4		4
Elementary Physics -----	3	2	4
The House -----		6	3
Clothing Problems -----		6	3
Millinery -----		2	1
Elective -----			3
Summer project 1 to 3 credits optional			

LABORATORY FEES—SCHOOL OF AGRICULTURE

Agromony	
Farm Crops (1st year) -----	\$1.00
Farm Crops (2d year) -----	1.00
Soils -----	1.00
Soils, Advanced -----	2.00
Animal Husbandry	
Stock Judging, Elementary -----	1.00
Stock Judging, Advanced -----	1.00
Botany -----	2.00
Chemistry -----	2.00
Dairy Husbandry	
Dairying (Men) -----	1.00
Dairying (Women) -----	1.00

Entomology -----	2.00
Home Economics	
Elementary Clothing -----	1.00
Clothing Problems -----	2.00
Elementary Dressmaking 2d year -----	.50
Dressmaking 3d year -----	.50
Elementary Dietetics and Table Service -----	3.00
Food Study -----	3.00
Food Preparation and Service -----	3.00
Household Problems -----	3.00
Millinery -----	1.00
Textiles and Laundry -----	2.00
Manual Training	
Carpentry -----	2.25
Blacksmithing -----	1.50
Advanced Blacksmithing -----	1.50
Physics -----	2.00
Zoology -----	2.00

ONE YEAR COURSE IN COMMERCIAL SCIENCE

September 17, 1923 to June 5, 1924

This course is offered for those who must enter business with less preparation than a full college course. Those who enter it should have completed a four years high school course or 15 units of entrance work as indicated in connection with the college courses leading to degrees. Certificates are given those who satisfactorily complete the work as outlined.

The tuition and other fees are the same as those required for other college work.

	Fall	Winter	Spring
Shorthand, Commerce 5a, 5b, 5c -----	5	5	5
Typewriting, Commerce 6a, 6b, 6c -----	3	3	3
Rhetoric, English 1a, 1b, 1c, -----	3	3	3
Business Law, Commerce 2a, 2b -----	3	3	
Business Organizations, Commerce 3 -----			3
Money and Banking, Commerce 4 -----			3
Accounting, Commerce 1a, 1b, 1c, -----	3	3	3
Secretarial Practice, Commerce 7 -----			0
	17	17	17

TRACTOR AND AUTO-MECHANICS SCHOOL

September 17, 1923 to June 5, 1924

The purpose of this course is to give a complete training in the operation, care and repair of gas engines, automobiles

and tractors, fitting students for tractor road work, tractor repair work and garage work.

This work is entirely separate from the School of Agriculture course.

Requirements for Entrance

Applicants for entrance to the course should be at least sixteen years of age and have a good reading and writing knowledge of the English language.

Written Application for Entrance Necessary

Because of limited facilities, the College will not accept more than ninety men for this course. However, a large number of additional men can be accommodated in the special two weeks tractor schools mentioned below. Those who wish to enter should not come to the College before making written application and ascertaining beforehand whether or not they can be accommodated. For special application blank write to the Registrar, State College, Brookings, South Dakota.

As a prompt beginning at the opening of each term is necessary to the success of the work, no one will be admitted after October 4 in the fall term and after January 10 in the winter term. A new class will begin work in each of the branches at the beginning of each term.

Expenses

The tuition is \$7.00 for each of the fall and winter terms, and \$6.00 for the spring term, or \$20.00 for the year. There are also laboratory fees to cover the cost of special materials used in the shops, 25 cents per hour being charged for time spent in acetylene welding, and \$3.00 for a term's work in each of the shops. Each student is expected to purchase a small roll of tools costing about \$10.00.

Good rooms and board may be obtained at private houses. The College maintains a dining hall in connection with the women's dormitories, and furnishes board at a very reasonable rate. During the year just closing, the cost of board in the hall has been about \$5.00 a week.

Equipment

An entire building on the campus is devoted to this work. It is completely equipped with modern tractors, automobiles,

and gas engines. The laboratories and shops are fitted up with tools and machinery of the latest design. Besides the equipment in this building there are two more shops located in the Engineering building. These two shops, the machine shop and the blacksmith shop, are the very best and each student is expected to master the use of all this equipment by actual practice under the guidance of an instructor, and at the same time learn the theory and the best methods for all phases of the work.

Tractor and Auto-Mechanic Course

To complete this course will require nine months of forty hours' work each week. At least six hours a week for each subject is required to complete the full course. One term of Acetylene Welding, Blacksmithing and Machine Shop is required with the Automobile Electricity and Auto Shop work. Three hours a week in English and three hours in arithmetic are also required of those who have not finished the eighth grade.

For special application blank and special bulletin giving outline of the work, write to the Registrar, State College, Brookings, South Dakota.

Special Two Weeks Tractor Schools

During the late winter and spring there will be conducted special tractor schools of two weeks each in which the different kinds of tractors will be studied. These courses will be entirely separate from the regular auto-tractor course, although the students of the auto-tractor course will have the advantage of these demonstrations without extra charge. A tuition fee of \$2.00 will be charged for attendance at a two weeks course. Men wishing to spend two weeks in the study of two tractors should write to the College for dates, and specify the kinds of tractors in which they are interested.

THE THREE MONTHS CREAMERY COURSE

January 2 to March 12, 1924

This course is especially designed for young men wishing to fit themselves for various positions connected with the

creamery industry such as helpers, buttermakers and managers.

Prospective students are urged to get at least six months of practical experience in some creamery before attending college, as by this means it is found that much greater benefit is derived from the work at school.

The more general application of scientific principles to the manufacturing industries as well as the increasing competition on all sides demands a more thorough training in scientific and business methods than heretofore. This is no less true with regard to the creamery industry; and while the practical work of the school is by no means neglected, special pains are taken to teach the underlying principles and the "reason why" for many of our daily operations. The increasing interest in dairying in South Dakota is creating a demand for men well trained along dairy lines and applications for such are constantly being received at excellent salaries. Worthy students may count on the co-operation of the dairy department in helping them to secure positions at the close of their college work. The work is as follows:

Ice cream, 1 hour recitation work per week.

Market milk, 1 hour recitation work per week.

Laboratory work for the above courses consists of practical work in creamery, 18 hours per week.

Creamery calculations and bookkeeping, 3 hours per week.

Testing milk and its products 4 hours per week.

Dairy bacteriology, 2 hours per week.

Creamery mechanics, 2 hours per week.

Dairy cattle management, 3 hours per week.

Dairy laws, 1 hour per week.

Buttermaking, 3 hours of recitation work per week.

The tuition is \$7.00 for the three month's term with a small additional fee for laboratory expenses.

A certificate of standing will be issued to all students passing satisfactory examinations in the above subjects.

Address the Dairy Husbandry Department for special bulletin describing this course and other work of the Dairy Department.

THE INDUSTRIAL ARTS

The College offers instruction in woodwork, mechanical drawing, forging, etc., in connection with the engineering courses and also for the training of teachers of industrial subjects. Those who take such work in preparation for teaching with the expectation of securing teaching certificates should elect subjects in the department of education as indicated under "Teaching Certificates".

The woodworking shops are located in the northeast wing of the Engineering Building, and have the following equipment: band saw, variety saw, jointer, mortiser, grinder, speed lathe and planer, all with individual motor drive, a trimmer, twenty-six individual benches and all the necessary tools.

THE FINE ARTS

This department offers courses which are designed to be of use for the school and the home. These include courses in drawing and painting for the study of form and color through the mediums of charcoal, pencil and brush; courses in the theory of abstract design, costume-design, and house-decoration; and courses in applied design, such as pottery, weaving, bobbin-lace, basketry and book-binding.

CORRESPONDENCE COURSES

South Dakota State College now offers two correspondence courses, one in agriculture and one in home economics. Credit obtained in these courses may be applied toward college entrance. The course in agriculture is along the line of animal production and management. The course in home economics comprises both cooking and sewing. The fee for each course is \$5, the student buying his own texts. Free bulletins are furnished by the College. Farmers, housewives, rural teachers, clubs and societies may pursue these courses to advantage. Other courses will be organized as the demand for them increases.

College Alumni

ALUMNI ASSOCIATION

I. J. Bibby, '12	-----	President
E. R. Serles, '15	-----	First Vice-President
R. C. Sherwood, '14	-----	Second Vice-President
Dewey De Boer, '22	-----	Third Vice-President
H. B. Mathews, '92	-----	Secretary and Treasurer
Horace Jones, '17	-----	Assistant Secretary

Class of 1886

BACHELOR OF SCIENCE

Saylor, Marcus A., Apiarist, Orland, Calif.

Class of 1888

BACHELOR OF SCIENCE

Aldrich, John M., Associate Curator, Division of Insects, U. S. Bureau of Entomology, National Museum, Washington, D. C.

Lawrence, Philip A., Attorney, Fargo, N. D.

Wellman, Lulah (Hewes), Lakewood, N. Y.

Class of 1889

BACHELOR OF SCIENCE

Boswell, Katie (Arnold), Kennebec

Cranston, May (Crane), Everett, Wash.

Cross, Alvah G.

Eno, Durell G., Merchant, Platte

Grady, Francis A., Attorney, Crookston, Minn.

Haber, Sarah (Cunningham), 1044 E. Flanders St., Portland, Oregon

Korstad, Hans, Rural Mail Carrier, Brookings.

Larson, Lars K., Banker, Dell Rapids

Lawshe, Grace (Brooke), Preceptress, S. D. S. C.

McKenney, Duston W., Supervisor Manual Training, 301 Lewis Ave., Billings, Mont.

McLouth, Lewis C., Manufacturer, Ypsilanti, Mich.

Mork, Albert A., Farmer, Drady, N. D.

Orcutt, Carrie, 612 Azelee St., Tampa, Fla.

Roe, Ellen (Aldrich), Died, Dec., 8th, 1897, at Helena, Mont.

Rogers, Edmond, Farmer, Sheridan St., Burnley Lanes, England

Ross, Abbie (Wesche), Webb, Iowa

Wardall, Anna (Scott), Osteopath, 2640 Walnut Ave., Seattle, Wash.

Class of 1890

BACHELOR OF SCIENCE

Allen, William C., Died in Chicago

Day, John M., Farmer, De Ridder, La.

Duffey, Maggie (Irish), Webster Groves, Mo.

Egeburg, Hildus, Farmer, Brookings

Haasarud, Ole H., Farmer, Rushford, Minn.

Harkins, Lilla A., Domestic Science Demonstration Agent, 46 Wendon Rd., Forest Hills, N. Y.

Hopkins, Cyril G., Died Nov. 1919, at Gibraltar

Jenkins, John C., Attorney, Culver City, Cal.

Kenyon, Arthur H., Died 1919, at Spokane, Wash.

Pyne, Estel W., Capitalist, 633 S. Union Ave., Los Angeles, Cal.
 Roe, Guy W., Fruit Grower, Delano, Cal.
 Stoner, Minna A., Woonsocket
 Wardall, Norman M., Seattle, Wash.

Class of 1891

MASTER OF SCIENCE

Aldrich, John M., Associate Curator, Division of Insects, U. S. Bureau of Entomology, National Museum, Washington, D. C.

BACHELOR OF SCIENCE

Aldrich, Irwin D., Commissioner of Immigration, Pierre
 Bell, William D., Minneapolis, Minn.
 Bentley, William S., Surgeon, U. S. P. H. S., Keith-Plaza Building, Minneapolis, Minn.
 Chamberlain, Jennie (Spoonier), 4525 4th Ave., Detroit, Mich.
 Crane, Austin B., Drainage Specialist, Extension Division, Everett, Wash.
 Davis, Homer, Physician, Genoa, Neb.
 Dillon, Willis C.
 Doughty, Hettie (Dibble), White
 Frick, Mary (Magaw), 903 2nd St., S. W., Rochester, Minn.
 Hann, J. B., Photographer, Orland, Cal.
 Houston, Grant, Physician, Barber Bldg., Joliet, Ill.
 Irish, Henry C., Horticulturist, Webster Groves, Mo.
 Lewis, Perry, Contractor, 501 S. Front St., Mankato, Minn.
 Robinson, Alice (Heberlein), 1677 Arlington Ave., Los Angeles, Cal.
 Shannon, Fanny (Fourt), 804 E. Burlington St., Fairfield, Iowa
 Solberg, Halvor C., Professor Mechanical Engineering, S. D. S. C.
 Updyke, Nora (Bacon), Voice Instructor, 1221 S. Catalina St., Los Angeles, Cal.
 Valleau, Vinal B., Valleau Poster Advertising Co., Albert Lea, Minn.
 West, Hugh H., Physician, Spurling Bldg., Elgin, Ill.
 Wolgemuth, Lee E., Chief Research Engineer, Sears & Roebuck Co., 361 Forest Ave., River Forest, Ill.

Class of 1892

BACHELOR OF SCIENCE

Austin, Steven E., Mechanical Engineer, Chicago
 Davis, Samuel H., Farmer, Plankinton, S. D.
 Griffiths, David, Agrostologist, Bureau of Plant Industry, Washinton, D. C.
 Hamlin, John R., Jr., Orange Grower, Hawthorne, Cal.
 Harding, Albert S., Professor of History & Political Science, S. D. S. C.
 Hatfield, Ira H., Died Feb. 8th, 1914, at Lincoln, Nebr.
 Keeney, Emma (Ferris), Springfield, Ore.
 McAndrew, James E., Lawyer, 822 Paulsen Bldg., Spokane, Wash.
 McLouth, Ida B., Died Aug. 27, 1899, at Short Beach, Conn.
 Madden, Marguerite (Akin), Merchant, Brookings
 Mathews, Hubert B., Vice Dean of Faculty & Prof. of Physics, S. D. S. C.
 Plocker, Eva (Mathews), Brookings
 Schlosser, Thomas F., Clergyman, Carleton, Ore.
 Sloan, Nettie, (Torrence), 29 Kendall St., Redlands, Cal.
 Whitten, John C., Died, June 5, 1922, at Washington, D. C.

Williams, Effie (Clark), Science Instructor, Haigler, Neb.
 Winegar, Albert J., Draftsman, Fairbanks-Morse & Co.,
 1105 Clary St., Beloit, Wis.

Class of 1893

MASTER OF SCIENCE

Griffiths, David, Agrostologist, Bureau of Plant Industry, Washington, D. C.

BACHELOR OF SCIENCE

Bates, Edmund T., Farmer, Wyoming, Iowa

Beck, Milton, Consulting Engr. & Vice Pres., The Page Co.,
 1018-431 S. Dearborn St., Chicago, Ill.

Edgerton, Wm. M., Physician, 2102 Dayton Ave., St. Paul, Minn.

McLouth, Benjamin F., Insurance, 639 S. Spring St., Los Angeles, Cal.

Robertson, Ada M., Teacher, R. F. D. No. 225, Anaheim, Cal.

Robertson, Clarence H., Science Teacher and Y. M. C. A. Sec. for China,
 Science Section, 20 Museum Road, Shanghai, China

Schoppe, W. J. A., Farmer, Groton

Class of 1894

MASTER OF SCIENCE

Plocker, Eva (Mathews), Brookings

Wolgemuth, Lee E., Chief Research Eng., Sears & Roebuck Co., 361
 Forest Ave., River Forest, Ill.

BACHELOR OF SCIENCE

Brown, Cyrus O., District Judge, Douglas, Wyo.

Brown, James A., Attorney, Care Burr & Brown, Security Mutual Bldg.,
 Lincoln, Neb.

Dibble, Hattie (Stow), Home Demonstrator, 202 Federal Bldg.,
 Everett, Washington

Hopkins, Mrs. C. G., 1001 S. Wright St., Urbana, Ill.

Luke, Fred K., Farmer, R. F. D. No. 2, Kalispell, Mont.

Parker, Fannie (Spoonier), Brookings

Sproul, Alex H., Director Com. Dept., State Normal School, Salem, Mass.

Tanzy, Marvin F., Died Feb. 8th, 1900, at Canton, S. D.

Waters, George D., Merchant, 1161 Grand Ave., Wichita, Kan.

Williams, Elinor (Knox), Phoenix, Arizona

Young, Gilbert A., Head of School of Mech. Eng., Purdue University,
 739 Owen St., Lafayette, Ind.

Class of 1895

MASTER OF SCIENCE

McKenney, Duston W., Supervisor Manual Training, 302 Lewis Ave.,
 Billings, Mont.

Schoppe, W. J. A., Farmer, Groton

Sproul, Alex H., Director Com. Dept., State Normal School, Salem, Mass.

BACHELOR OF SCIENCE

Allison, Wm. F., Prof. of Civil Eng., U. of Wash., Seattle, Wash.

Brown, Sarah, Teacher, Shannon City, Iowa

Cornell, Harry M., Real Estate, Mott, N. D.

Mayland, Mable (Merrick), Troy, Kan.

Parker, Anna (Moore), Died Nov. 28, 1918, at Brookings

Salisbury, Edith (Robertson), care Y. M. C. A., 20 Museum Road,
 Shanghai, China

Sevy, Isaac B., Supt. City Schools, Milton, Ore.

Sproul, Wm. C., Sec'y Ingersoll Milling Machine Co., 1751 Clinton St., Rockford, Ill.

Thornber, John J., Director U. S. Exp. Sta. and Prof. of Botany, U. of Arizona, Tucson

Wilcox, Ernest M., Farmer, Atascadero, Cal.

PHARMACY GRADUATES

Briggs, Elmer E., Died April, 1922, at Madison, Wis.

Knox, Wm. H., Sec. Egyptian Cotton Growers' Assn., Phoenix, Ariz.

Lentz, Elmer A., Dentist, Brookings

Murphy, Wm., Died July 5, 1896, at Brookings

Whitehead, B. T., Died April 1, 1917, at Brookings

Class of 1896

MASTER OF SCIENCE

Brown, James A., Attorney, care Burr & Brown, Security Mutual Bldg., Lincoln, Neb.

Luke, Fred K., Farmer, R. F. D. No. 2, Kalispell, Mont.

Robertson, Ada M., Teacher, R. F. D. No. 225, Anaheim, Cal.

Wilcox, Ernest N., Farmer, Atascadero, Calif.

Williams, Effie (Clark), Science Instructor, Haigler, Neb.

BACHELOR OF SCIENCE

Atkinson, Jesse C., Civil Engr., 5441 Fulton St., Austin Sta., Chicago, Ill.

Carter, Louis W., Postmaster, Highmore

Dibble, Ida (Brown), Care Burr & Brown, Security Mutual Bldg., Lincoln, Nebraska

Downing, Jennie C., Died Feb., 1920, at Redfield

Grattan, Paul H., Hardware, Chatfield, Minn.

Hegeman, Harry A., Col. U. S. A., Vancouver Ave., Portland, Ore.

Holm, Andrew B., Farmer, Brookings

Hoy, Howard H., Asso. Prof. of Phys. and Mech. Eng., S. D. S. C.

Korstad, Mary, Brookings

Lusk, Willard C., Editor, Yankton Press and Dakotan, Yankton

Mathews, Alta (Smith), Teacher, Paisley, Ore.

Mathews, Nora (Hoy), Brookings

Sasse, Ernest G., Physician, Lidgerwood, N. D.

Williamson, Albert, Attorney, Kennebec

PHARMACY GRADUATES

Cotter, J. C., Farm Machinery, Dell Rapids

Grove, Eugene, Physician, Arlington

Moore, Thomas, Druggist, Waterloo, Iowa

Palmer, Horton, Druggist, 426 S. Sycamore St., Santa Ana, Cal.

Sherwin, Frank, Merchant, Corvallis, Ore.

Class of 1897

MASTER OF SCIENCE

Davis, Homer, Physician, Genoa, Neb.

BACHELOR OF SCIENCE

Ainsworth, Cephas B., Land, 319 E. Broadway, Long Beach, Cal.

Atkinson, George, Teacher, Sandpoint, Idaho.

Atkinson, Walter, Civil Eng., 527 W. 61st St., Chicago, Ill.

Boyden, Frank E., Physician and Surgeon, 116 Lewis St., Pendleton, Ore.

Clevenger, John W., Dentist, Chamberlain
 Hargis, Christie (Saylor), 913 Douglas St., Des Moines, Iowa
 Hazle, Wm. A., Attorney and Adj. Gen., Aberdeen
 Husted, Harley H., Died Jan. 14, 1907, at Lincoln, Neb.
 Jolley, Wm. G., Died Oct. 20, 1922, at Portland, Ore.
 Madden, Kathryn (Crowley), Librarian, Chemistry Bldg., U. of Minn.,
 84 Spruce Place, Apt. 24, Minneapolis, Minn.
 Olson, Eva L., School Principal, S. St. Paul, Minn.
 Parsons, Thos. S., Died Feb. 27, 1923 at Laramie, Wyo.
 Roe, Robert, Farmer, Highmore
 Shuster, John W., Elec. Eng., 726 Stevenson Ave., Pasadena, Cal.
 Thornber, Walter S., Orchardist, Lewiston, Idaho
 Walters, Wm. H., Farmer, Brookings
 West, Orpha (Sevy), Teacher, Milton, Ore.
 Whaley, Neva (Harding), Brookings
 Whitehead, Bower T., Died April 1, 1917, at Brookings
 Wilcox, Alice (Remsburg), Thawville, Ill.
 Work, Lloyd E., Vice Pres., Elston & Co., Chicago, Ill.
 Young, Grace (Bullen), Died May, 1921 at Portland, Ore.

Class of 1898

MASTER OF SCIENCE

Chilcott, E. C., Agronomist in charge of Dry Land Agriculture, Washington, D. C.
 Harkins, Lilla A., Home Demonstration Agent, 46 Wendon Rd., Forest Hills, N. Y.
 Parsons, Thos. S., Died Feb. 27, 1923 at Laramie, Wyo.

BACHELOR OF SCIENCE

Ainsworth, Howard, Merchant, Santa Cruz, Cal.
 Ainsworth, Flora (Hazle), 385 Gladys Ave., Long Beach, Cal.
 Barton, Alice (White), 504 Halladay St., Santa Ana, Cal.
 Beck, Louis, Garage Owner, 202 S. Kroeger St., Anaheim, Cal.
 Bolles, Myrick N., Farmer, Flandreau
 Curtiss, Elsie (Crane), Kettle Falls, Wash.
 Davidson, Margaret (Crane), Teacher, 3809 N. Jefferson St., Spokane, Washington
 Fjerestad, Hans C., Merchant, 1012 42 St., Los Angeles, Cal.
 Harding, Charles J., Teacher, Huron, S. D.
 Hegeman, Maude (Boyden), 116 Lewis St., Pendleton, Ore.
 Hegeman, Mable (Allison), Univ. of Wash., Seattle, Wash.
 Hodgeson, Herbert H., Top. Eng., U. S. Geol. Survey, Silver Springs, Md.
 Knox, Wm. H., Gen. Manager Ariz. Cotton Growers Association, R. F. D. No. 2, Phoenix, Ariz.
 Lawrence, Claude W., Farmer, Sequim, Wash.
 Lawrence, Clay, Attorney, Pioneer Bldg., Seattle, Wash.
 Loveland, Addie (Towne), 2104 Penn. Ave. S., Minneapolis, Minn.
 Paddock, Jay M., Died Dec. 16, 1916 at Eugene, Ore.
 Riemann, Edith (Adams), 41 Park Row, New York, N. Y.
 Thornber, Wm. T., Farmer, Colman
 Towne, Judson, Teacher Physics, E. Side H. S., 2104 Penn. Ave. S., Minneapolis, Minn.

PHARMACY GRADUATES

Beebe, Jay L., Phy. & Surgeon, First Natl. Bank Bldg., Anaheim, Cal.
 Clevenger, J. W., Dentist, Chamberlain
 Holsey, Joseph, Druggist, Veblen
 Lee, Berton E., Accountant, 133 Clark St., Mankato, Minn.

Class of 1899

MASTER OF SCIENCE

Dibble, Hattie (Stow), Home Demonstration Agent, 202 Federal Bldg.,
 Everett, Washington
 Mathews, Hubert B., Vice Dean of Faculty and Prof. of Physics, S. D. S. C.
 Thornber, Walter S., Orchardist, Lewiston, Idaho
 Whitten, John C., Died June 5, 1922 at Washington, D. C.

BACHELOR OF SCIENCE

Colegrove, Ina (Nelson), 11 Haviland St., Worcester, Mass.
 Findeis, Philip, Lumber Merchant, Miranda
 Lawrence, Mary M., Home Management Specialist, Extension Div., State
 College, Pullman, Wash.
 Lawrence, W. H., Clovis, Cal.
 Mason, Nellie (Mason), Albia, Iowa
 Nachtigal, Isaac, Merchant, Morningside, Iowa
 Sherwin, Howard H., Civil Eng., Terminal Station, New York, N. Y.
 Walters, Edith (Fystrom), Died May 15, 1910, at Geneseo, N. Dak.
 West, George, Physician, Armstrong, Iowa

PHARMACY GRADUATES

Carr, George, Druggist, Bison
 Crowley, D. C., Auto Dealer, San Jose, Cal.
 Hepner, Frank, Asst. Chemist, U. of Wyoming, Laramie
 Kendall, Clinton D., Druggist, Brookings
 Lindsey, Charles, Bank President, Regan, N. D.
 Oulton, Frank, Abstractor, Choteau, Mont.
 Shriver, E. M., Real Estate, Coos Bay, North Bend, Ore.
 Taylor, C. DeWitt

Class of 1900

BACHELOR OF SCIENCE

Allen, Hart M., Druggist, 33 Clubhouse, Venice, Cal.
 Anderson, Clark M., Died March 6, 1902, at Brookings
 Beebe, Jay L., Phy. and Surgeon, First Natl. Bank Bldg., Anaheim, Cal.
 Carlson, Esther (Lilygreen), 701 Magnolia St., St. Paul, Minn.
 Carlson, Ella (Howard), Lake Preston
 Davies, Sara (Sherwin), Terminal Station, New York, N. Y.
 Davies, Mary (Hutchins), Falls City, Neb.
 DeLa, John W. R. H., Mathematics Instructor, State Normal, Minot, N. D.
 Doughty Mattison, H., Div. Engineer with D. L. & W. Ry., Hoboken, N. J.
 Grove, Frank W., Dentist, Delta, Colo.
 Harza, Carl, Supt. of Meter Insts., 18 Washington Ave., Edison Bldg.,
 Detroit, Mich.
 Kendall, Clinton D., Druggist, Brookings
 Lawrence, Jessie (Hagerman), Box 118, R. 1, Auburn, Wash.
 Mathews, Alice (Albright), Black Eagle, Mont.
 Mathews, Roscoe A., Lumber and Coal, Dutton, Mont.

Morrison, Freda (Cole), Instructor Home Ec., Hurley
 Olson, Gustava (Hodgeson), Silver Springs, Md.
 Williams, Callie (Olson), 231 Summit Ave., Sioux Falls

PHARMACY GRADUATES

Baldwin, Corwin B., Druggist, Rapid City
 Bentley, Wm. S., Examining Physician, U. S. P. H. S., Kieth-Plaza Bldg.,
 Minneapolis, Minn.
 Brosseau, Jesse E., Physician and Surgeon, Frankfort
 Connell, John C., Druggist, Luverne, Minn.
 Eckhart, Henry, Died at Menno
 Else, Earl, Physician and Surgeon, Broadway Bldg., Portland, Ore.
 George, William A., Physician and Surgeon, Selby
 Hart, Bertrand M., Physician and Surgeon, Onida
 Jones, Robert, Drug Salesman, Madison
 West, Hugh H., Physician and Surgeon, Spurling Bldg., Elgin, Ill.

Class of 1901

MASTER OF SCIENCE

Knox, Wm. H., Sec. Egyptian Cotton Growers' Assn., Phoenix, Ariz.
 Whitehead, Bower T., Died April 1, 1917 at Brookings

BACHELOR OF SCIENCE

Bagley, Susanna, Art Instructor, 3012 Ezekiel St., Lake Co., Zion City, Ill.
 Bolles, Laura Jane, Science Instructor, State Normal, Cedar Falls, Iowa
 Boyd, Mary (Labbitt), 2709 S. Glass St., Sioux City, Iowa
 Brosseau, Jesse E., Physician, Frankfort
 Cranston, Margaret (Young), Died June 7, 1907, at Oakes, N. D.
 Culhane, Michael E., President Culhane Adjustment Co., 3714 Pillsbury
 Ave., South, Minneapolis, Minn.
 Davies, Autumn, Instructor in Political Science, H. S., 1009 S. 30th Ave.,
 Omaha, Neb.
 Dodge, Fred E., Hotel Manager, Redfield
 Else, Earl, Physician and Surgeon, Portland, Ore.
 Enos, Winifred (Kendall), Brookings
 Erickson, Martin L., Petroleum Engineer, Fullerton, Cal.
 Evans, Lina (Roskie), Abstractor, Brookings
 Fishback, Myra (Kennedy), 62 Machua Bazaar St., Calcutta, India
 Harza, LeRoy F., Consulting Engineer, 623 Monadnock Bldg., Chicago, Ill.
 Hatton, John H., Forestry Service, Federal Bldg., Denver, Colo.
 Johnson, Rhoda (Lee), Died Oct. 18, 1909, Denver, Colo.
 Kendall, Leonard J., Ticket Agent, Brookings
 Kennedy, C. LeRoy, Fruit Grower, 927 5th St., Santa Monica, Cal.
 Langdon, Lillian (Culhane), 3714 Pillsbury Ave., Minneapolis, Minn.
 McElmurry, Loretta, Agricultural Immigration Service, Winnipeg, Canada
 Mork, Theodore, Farmer, Des Laes, N. D.
 Phillips, Florence (Haas), Volga
 Phillips, C. Louise, Scientific Assistant, Bureau of Markets, 1424 Euclid
 St., N. W., Washington, D. C.

PHARMACY GRADUATES

Cornell, Edward, Druggist, 1344 Thomas St., St. Paul, Minn.
 Tidball, Clyde, Druggist, Brookings

Clas of 1902

BACHELOR OF SCIENCE

- Fleming, Michael, City Mgr., M. A. Hanna Coal Co., Merchants' Nat'l. Bank Building, St. Paul, Minn.
 George, William A., Physician and Surgeon, Selby
 Hart, Bertrand M., Physician and Surgeon, Onida
 Hepner, Frank E., Chemist, U. of Wyoming, Laramie
 Johnson, Clara (Johnson), Brookings
 Johnson, Edward, Died May 1, 1907, Tacoma, Wash.
 Kephart, George, City Attorney, 421 Iowa Bldg., Sioux City, Iowa
 Lee, Berton E., Accountant, 133 Clark St., Mankato, Minn.
 Ramsey, Henry J., Field Manager Cal. Fruit Growers Exchange, 1656 N. Los Robles, Pasadena, Cal.
 Roskie, Geo., Vice Pres., Bank of Brookings, Brookings
 Thornber, Edith (Cuckow), La Junta, Colo.
 Trooien, Ole N., Died Dec. 25, 1915, at Brookings
 Winegar, Laura, Com'l Club Office Secretary, 623 W. 12th St., Sioux Falls

PHARMACY GRADUATES

- Allison, Wm. F., Prof. of Civil Eng., U. of Wash., Seattle, Wash.
 Boyden, Frank E., Physician and Surgeon, Pendleton, Ore.
 Christianson, Bernett, Druggist, Volga
 Hayter, McPherson, Merchant, Artesian
 Jarratt, Arthur A., Druggist, Colman
 Jarvis, S. Hall, Druggist, Faulkton
 Leighty, James A., Druggist, Winfred
 Morton, Frederick M., Druggist, Lake City
 Pickles, Chester E., Farmer, Elrod
 Schnaidt, Henry, Druggist, Parkston
 Schroeder, Anna (Gassman), Druggist, Marion

Class of 1903

MASTER OF SCIENCE

- Crane, Austin B., Drainage Specialist, Everett, Wash.
 Hoy, Howard H., Asso. Prof. of Phys. and Mech. Eng., S. D. S. C.

BACHELOR OF SCIENCE

- Almond, Fred C., Died March 12, 1909, at Clear Lake
 Cole, John S., Asst. Dry Land Exp. Stations, Dept. of Agr., 626 Princeton Pl., N. W., Washington, D. C.
 Colegrove, Lettie (Drew), Manila, P. I.
 Cuckow, Fred W., Lawyer, La Junta, Colo.
 Hubbard, Minnie (Holbein), Bismarck, N. D.
 Johnson, Isaac, Lumberman, Brookings
 Kendall, Krete (Miller), 112, 81st St., S. E., Minneapolis, Minn.
 Langdon, Alice, Stenographer, 1343 Clifton St., N. W., Washington, D. C.
 Miller, Shirley P., Instructor Zoology, Medical Dept., Univ. of Minn., 112, 81st St., S. E., Minneapolis, Minn.
 Norton, Frank A., Fruit Grower, Grand View, Wash.
 Ottermess, Jens M., Private Secretary to Senator Sterling, 437 Senate Office Bldg., Washington, D. C.
 Peirce, E. Esther, Teacher, Billings, Mont.
 Sanborn, Ethel I., Instructor in Botany, State Univ., Eugene, Ore.

Sarvis, Roscoe J., Telephone Engineer, Aberdeen
 Seide, Louise (Prell), Meridian Ave., Anderson, Ind.
 Webster, James L., Farmer, R. F. D. No. 2, Wenatchee, Wash.
 Wescott, Geo. R., Asst. Engr., Mo. Pac. Ry., 315 N. 7th, Poplar Bluff, Mo.

PHARMACY GRADUATES

Drew, Arthur W., Physician, Capt. U. S. A., Manila, P. I.
 Hall, Roy J., Druggist, Osakis, Minn.
 Heston, Edward C., Physician and Surgeon, Roslyn, Wash.
 Hollister, Arthur R., Traveling Salesman, Madison
 Howell, John E., Chemist
 Johnston, Samuel, Druggist, Hazel
 Norton, Frank A., Fruit Grower, Grand View, Wash.
 Steiner, Fredrick W., Physician, 323 Union Ave., Havre de Grace, Md.
 Trumm, Robert E., Druggist, Hayti
 Van Dusen, Fred J., Pharmacist, Lead
 Williams, Percy, Physician and Surgeon, Los Angeles, Cal.
 Young, Alfred J., Farmer, Adanac, Saskatchewan

Class of 1904

MASTER OF SCIENCE

Trooien, Ole N., Died Dec. 21, 1915, at Brookings

BACHELOR OF SCIENCE

Binford, Wm. W., Rancher, Elgin, Ore.
 Bushnell, Maude (Kelton), Poynette, Wis.
 Loucks, Anna Y. (Brown), Brookings
 Mattice, Albert F., Phy. and Surgeon, 614 Cobb Bldg., Seattle Wash.
 McGarry, Lawrence R., Real Estate, Alhambra, Cal.
 Ruth, Thomas H., Veterinary Surgeon, De Smet
 Sanderson, Everett G., Farmer, Aurora
 Sherwin, Ralph L., Civil Eng., Arcadia, Fla.
 Smith, Wm. J., Missionary, Silliman College, Damaguete, P. I.
 Thompson, Clarence, Garage Owner, 119 S. Main Ave., Sioux Falls
 Walter, L. Irving, State Chemist, Laramie, Wyo.

PHARMACY GRADUATES

Anderson, Ernest, Druggist, Aberdeen
 Dillon, Cornelius, Druggist, 1104 Wash. St., Eugene, Ore.
 Frick, Harry A., Candy Manufacturer, 605 Vermont St., Mitchell
 Goodale, Alton R., Druggist, Aberdeen
 Hooker, Henry, Physician, 401 First St., Danville, Ill.
 Koch, Arthur E., Attorney, 507 Vinton Bldg., Detroit, Mich.
 Ramsdell, Leonard C., Died July 1, 1919, at Flandreau
 Thompson, Gottfried, Physician and Surgeon, Sioux Falls
 Weisflock, Theodore, Druggist, Frankfort

Class of 1905

MASTER OF SCIENCE

Hepner, Frank, Chemist, U. of Wyoming, Laramie
 Norton, Frank A., Fruit Grower, Grand View, Wash.
 Phillips, C. Louise, Librarian, U. S. Dept. of Agriculture, 1424 Euclid St.
 N. W., Washington, D. C.
 Thompson, Clarence, Garage Owner, 119 S. Main Ave., Sioux Falls
 Walter, L. Erving, State Chemist, Laramie, Wyo.

BACHELOR OF SCIENCE

- Boyden, Guy L., Physician and Surgeon, 909 Stevens Bldg., Pendleton, Ore.
 Chappell, Bessie, Prof. Home Economics, State Uni., Laramie, Wyo.
 Chappell, Elsie (Wilson), Brookings
 Davis, Clifford W., Farmer, Carmichael, Sacramento, Cal.
 Elliot, Roy K., Electrician, 20 Bay State Ave., West Somerville, Mass.
 Fassett, Della (Loucks), Watertown
 Fishback, Van Dusen, Loans, Brookings
 Forrest, Victor E., Eng., Bland Eng Co., Kennedy & L. St., N. E., South
 Minneapolis, Minn.
 Fulkerson, Vincent, Special Agent, Dept. of Agr., Fallon, Nev.
 Grove, Mary (Potter), Marshall, Ill.
 Hage, C. F., Druggist, Toronto
 Howg, Edwin M., Physician and Surgeon, New Effington
 Jensen, Lewis N., Insurance, S. Union Ins. Co., 209 Bradley Bldg., San
 Antonio, Tex.
 Johnson, Carl L., Elec. Eng., 36 Stratford Ave., Pittsfield, Mass.
 Mathews, Harry E., Railway Service, Las Vegas, Nev.
 Miller, Ralph L., Deputy Grand Secretary, Masonic Grand Lodge, Fargo,
 North Dakota
 Murphy, Matt W., Lawyer, 408, 8th Ave. S., Fargo, N. D.
 Nelson, John Harland, Professor of Structural Engineering, Worcester
 Polytechnic Institute, 11 Haviland St., Worcester, Mass
 Ronning, Oscar E., Supt. of Schools, Frankfort
 Schaphorst, Wm. F., Advertising Engineer, 45 Academy St., Newark,
 N. J.
 Slocum, Ina S. (Deeley), 2818 Granville St., Vancouver, B. C.
 Thogerson, Arthur A., Contractor, Yankton
 Walters, Daisy, Teacher, Bruce
 Williams, Harry, Banker, Madera, Cal.
 Williams, Percy, Physician and Surgeon, Los Angeles, Cal.

PHARMACY GRADUATES

- Fjerestad, Carl, Druggist, Elkton
 Howg, Edwin M., Physician and Surgeon, New Effington
 Larson, Lars P., Farmer, Howard
 Mathews, Harry E., Railway Service, Las Vegas, Nevada
 McCurdy, Walter, Banker, Lane
 Morton, Grant J., Chief Denver Division, Bureau of Chemistry, U. S.
 Department of Agr., Tabor Opera House Bldg., Denver, Colo.
 Pottinger, Geo, Druggist, Valley Springs
 Thompson, Clarence, Garage Owner, 119 S. Main Ave., Sioux Falls
 Volin, Porter, Physician and Surgeon, Lennox

Class of 1906

BACHELOR OF SCIENCE

- Aldrich, G. Malcolm, Prin. Calhoun School, 3220 Second Ave. S.,
 Minneapolis, Minn.
 Barrett, Wylie J., Died Feb. 1920, at Plankinton
 Bonesteel, Bee (Dillman), Dept. Agr., Washington, D. C.
 Brownell, Ellen (Wellington), R. F. D., Calipatria, Cal.

- Burghardt, Roy D., Pres. Burghardt & Hauff Elec. Co., 1007 1st Ave., Seattle, Wash.
- Carpenter, Abbie (Challman), E. 1121 Nora Ave., Spokane, Wash.
- Chilcott, Ellery F., Supt. Dry Land Experiment Station, Woodward, Cal.
- Coller, Fred A., Asst. Prof. of Surgery, State University, Ann Arbor, Michigan
- Davies, Gladys (Grace), Mitchell, Neb.
- Erstad, Alfred J., President Standard Mach. Co., 314 Albemarle Terrace, Portland, Oregon
- Evans, Edna (Craig), East Farm, Wash.
- Grace, Oliver, Farmer, Mitchell, Neb.
- Kennard, Frank L., Washburn-Wilson Produce Co., Moscow, Idaho
- Knox, Arthur H., Farmer, Alpena
- Koch, Arthur E., Lawyer, 507 Vinton Bldg., Detroit Mich.
- Moffatt, Margaret E., 2008 Madison Ave., San Diego, Cal.
- Reich, Rose M., Dietitian, 1731 Main St., LaCrosse, Wis.
- Thorner, Jessie B., Instructor Home Economics, Filer, Idaho
- Youngberg, Guy E., Professor of Biol. Chemistry, 24 High St., Buffalo Uni., Buffalo, N. Y.

PHARMACY GRADUATES

- Allison, Harold, Physician and Surgeon, Amity, Ore.
- Bergeim, Olaf, Asst. in Chem., Jefferson Medical College, 10th and Walnut Sts., Philadelphia, Pa.
- Davies, Gladys (Grace), Mitchell, Neb.
- Harben, Bartlett L., Died June 10, 1912, at Winner, S. D.
- Holm, A. B., Farmer, Brookings
- Locke, Chas., Druggist, Webster
- Wipf, Michael J., Druggist, Alsen, N. D.

Class of 1907

MASTER OF SCIENCE

- Culhane, Michael E., Culhane Adjustment Co., 3714 Pillsbury Ave., Minneapolis, Minn.

BACHELOR OF SCIENCE

- Binnewies, Mabel (Shanley), 615 S. Second Ave., Sioux Falls
- Briggs, Stephen F., of Briggs & Stratton Co., 1047 Lewis Ave., Milwaukee, Wisconsin
- Burch, Walter S., Elec. Engr., with Rochester Railway & Light Co., 81 S. Fitzhugh St., Rochester, N. Y.
- Christianson, Christine (Buck), 1518 S. Wash., Denver, Colo.
- Dillman, Arthur C., Cereal Investigations, Dept. of Agr., Washington, D. C.
- Dutcher, R. Adams, Prof. Agr. Chem., State College, State College, Pa.
- Elliot, Bruce A., Died Oct. 29, 1917, at Brookings
- Elliot, Ross W., Manual Training and Dean of Junior College, 406 Lincoln St., Hibbing, Minn.
- Fjerestad, Alman, Electrical Engineer, 2420 Wilson Ave., Chicago, Ill.
- Gagel, Gerald, Died June 1st, 1919, at Bauming, Cal.
- Hofstetter, Geo., Instructor Manual Training, 707 W. Spruce St., Missoula, Montana

- Johnson, Aaron G., Plant Pathologist, 3408 Rodman St. N. W., Washington, D. C.
- Kirk, John R., Farmer, Springfield
- Knutson, Mable (Trooien), County Supt., Brookings
- McCordic, Clare, Salesman, 405 Clay St., Portland, Ore.
- McElmurry, Rilla (Eells), 205 Wellesley Rd., Syracuse, N. Y.
- Morton, Grant J., Chief Denver Div., Bureau of Chem., U. S. Dept. of Agr., Tabor Opera House Bldg., Denver, Colo.
- Reich, J. Carl, Elec. Eng., 3403 W. Monroe St., Chicago, Ill.
- Salmon, Cecil, Prof. Agronomy, Kansas Agr. College, 1630 Leavenworth, Manhattan, Kan.
- Sanderson, Eugene, Telephone Power Plant Engineer, 56 Woodward Ave., South Norwalk, Conn.
- Tuttle, Volney J., General Electric Co., D. C. Eng. Dept., Schenectady, New York
- Underwood, Genevieve (Schmidt), Bryant
- Wescott, Ruth M. (Johnson), 3408 Rodman St. N. W., Washington, D. C.
- Work, Mary L., Stenographer, 1508 Penn. Ave., Des Moines, Ia.

PHARMACY GRADUATES

- Dexter, David F., Member State Board of Pharmacy, Druggist, Canton
- Ennis, Herbert I., Druggist, Volga
- Kartrude, Inga M., Teacher, Hardwick, Minn.
- Roney, Ray W., Druggist, Chester

Class of 1908

MASTER OF SCIENCE

- Coller, Fred A., Asst. Prof. of Surgery, U. of Michigan, Ann Arbor, Mich.
- Koch, Arthur E., Lawyer, 507 Vinton Bldg., Detroit, Mich.

ELECTRICAL ENGINEER

- Elliott, Ross W., Manual Training and Dean of Junior College, 406 Lincoln St., Hibbing, Minn.

BACHELOR OF SCIENCE

- Alton, Benjamin H., Physician and Surgeon, 72 Pearl St., Worcester, Mass.
- Bergeim, Olaf, Asst. in Chem., Jefferson Medical College, 36 S. Yewdell St., West Philadelphia, Pa.
- Carpenter, Clarence A., Electrical Engineer, Rapid City
- Chilcott, Ralph, Fruit Grower, Vienna, Va.
- Cooley, William R., Stockman, Springfield
- Griffith, T. Edwin, Captain, U. S. A., Hull, Mass.
- Holsey, Ernest, Div. Agent, Washington Water Power Co., Okanogan, Washington
- Hubbart, Edith J., City Librarian, Brookings
- Hyde, Hallie W., Inst. Dom. Sci., 26 Halelena Park, Honolulu, Hawaii
- Kelly, Amy, Home Dem. Specialist, Extension Div. State University, Boise, Idaho
- Kendall, Nellie G., Inst. Physical Training, S. D. S. C.
- Locke, Francis J., Elec. Eng., 119 Park Ave., Mt. Vernon, N. Y.
- Mathews, Oscar R., Asst. Agronomist, U. S. Dept. Agr., Newell
- Mayland, Amy, Died Feb. 17, 1909, at Lincoln, Neb.
- Mayland, George R., Fruit Grower, Baldwin Park, Cal.
- Nelson, Aaron L., Elec. Eng., Schenectady, N. Y.

Nilsson, Edward, Artist, Capital Engraving Co.
 709 West Vine St., Springfield, Ill.
 Olberg, Fred C., Druggist, Leavenworth, Wash.
 Perry, William J., Electrical Engineer, Box 521, Tulsa, Okla.
 Soreng, Edgar M., Machine Designer, Republic Flow Meter Co., 2240
 Diversey Pky., Chicago, Ill.
 Sperb, John J., Civil Eng., Ocean Falls, B. C., Canada
 Ulrich, Darwin William, Farmer, Alma, Wis.
 Underwood, Beatrice, Instructor Home Ec., Henry
 Underwood, Loto (White), Brooklyn Botanical Gardens, Brooklyn, N. Y.
 Weeks, Gordon A., Electrical Engineer, 711 Post St., San Francisco, Calif.
 West, Florence E., Teacher, Rhinebeck, N. Y.
 Whitehead, Lindsey W., Instructor Civil Eng., State College, Pa.
 Williams, Ruby (Heil), Hollywood, Cal.

PHARMACY GRADUATES

Hoch, Joseph L., Druggist, Tyndall
 Murphy, James P., Capt. 42nd Inf., U. S. A. Canal Zone, Panama
 Olberg, Fred C., Druggist, Leavenworth, Wash.
 Quiggle, Ernest J., Druggist, Groton

Class of 1909

MASTER OF SCIENCE

Mathews, Oscar R., Ass't Agronomist, U. S. Dept Agr., Newell

ELECTRICAL ENGINEER

Elliot, Bruce A., Died Oct. 29, 1917, at Brookings
 Schaphorst, Wm., Advertising Engineer, 45 Academy St., Newark, N. J.

BACHELOR OF SCIENCE

Bacon, Eva (Paulson), Watertown
 Bushnell, Edna (Lindahl), Roseau, Minn.
 Camp, Fred, 104 E. 10th Ave., Spokane, Wash.
 Catlett, Winifred (Swering), 219 Laurel St., Hartford, Conn.
 Champlin, Manley, Prof. Field Husb., Saskatchewan Agr. College,
 Saskatoon, Canada
 Clarke, Roy, Instructor, State Normal, Box 444, Ellensburg, Wash.
 Coughlin, Chas., Mfg. Mgr., Briggs & Stratton Co., Milwaukee, Wis.
 Denhart, Cecil, Grain Dealer, White
 Erwin, Ada, Extension Teaching, 26 Halelena Park, Honolulu, Hawaii
 Evans, Iva (Morrison), 433 Waverly Place, Spokane, Wash.
 Furnstahl, John, Died Dec. 16, 1916, at Ajo, Arizona
 Jensen, Harvey, Capt. U. S. A., Head Quarter's Co., Ft. Snelling, Minn.
 Jones, Robert, Lawyer, Milbank
 Kremer, Alvin, Cashier, U. S. Natl. Bank, Portland, Ore.
 Lane, Lloyd, Instructor Manual Training, Wessington
 McKeown, Ralph, Farmer, Elkton
 Marquis, Sidney, Electrical Engineer,
 Matheny, Chester, Gen. Mgr., Republic Flow Meters Co., 2537 Argyle St.,
 Chicago, Ill.
 Odland, John, Farmer, Parker
 Palm, Ellen (Olson), Lake Norden
 Peirce, Ruth, Librarian, 4419 N. Racine Ave., 2nd. Apt., Chicago, Ill.
 Phillips, Geo. C., Died May 8, 1921 at St. Paul, Minn.

Sarvis, Johnson, Special Agent, Dept. Agr., Mandan, N. D.
 Sperb, Frank, Farmer, Canby, Ore.
 Swering, Joe, Elec. Eng., Hartford Steam Boiler and Inspection Co.,
 219 Laurel St., Hartford, Conn.
 Treacy, Timothy, Catholic Priest, 487 Mich. Ave. S. E., Wash., D. C.
 Vernlund, Carl, Physician and Surgeon, Professional Building,
 179 Allyn Street, Hartford, Conn.
 White, Orland, Botanist, Brooklyn Botanical Gardens, Brooklyn, N. Y.
 Wickre, Jacob, Assemblyman and Farmer, Langford
 Wright, Mary (Dutcher), 416 West Foster Ave., State College, Pa.

PHARMACY GRADUATES

Abbott, Guy S., Druggist, Yale
 Buck, Ervin, Hotel Proprietor, Wessington Springs
 Crosby, LeRoy, Druggist, Hitchcock
 Dickey, James, Druggist, Iroquois
 Hage, Christian, Druggist, Toronto
 Wilson, Frank M., Physician, 1294½ Belmont St. & 45th, Portland, Ore.
 Youngberg, Guy E., Prof. of Chemistry, University of Buffalo, Buffalo,
 N. Y.

Class of 1910

MASTER OF SCIENCE

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 Dutcher, R. Adams, Prof. of Agr. Chem., State College, 416 West Foster
 Ave., State College, Pa.
 Youngberg, Guy E., Prof. of Chem., U. of Buffalo, Buffalo, N. Y.

MECHANICAL ENGINEER

Hofstetter, George, Instr. Manual Training, 707 W. Spruce St., Missoula,
 Mont.

BACHELOR OF SCIENCE

Atkinson, Fay, Farmer, Coal Harbor, N. D.
 Barber, Floyd, Civil Engineer
 Biggar, Howard H., Assoc. Editor Drivers' Stockman Journal, Omaha,
 Neb.
 Crothers, Harold, Asst. Prof. of Elec. Eng., Eng. Bldg., State Univ.,
 Madison, Wis.
 Crothers, Ralph, Farmer, Badger
 Fickle, Walter, Died Jan. 26, 1911, at Blunt
 Fridley, Ray, Capt. S. D. N. G., 136th Eng., Brookings
 Grotta, Edwin, Implement Dealer, Esmond
 Johnson, Charles, Hardware Merchant, Hetland
 Johnson, Milla (Anderson), Died Nov. 1918, at New England, N. D.
 Kartrude, Inga, School Principal, Kenneth, Minn.
 Kelly, T. B., Voice Instructor, 4624 Colfax Ave. S., Minneapolis, Minn.
 Lothrop, Elmer, Electrical Engineer, Huron
 Lloyd, Robert, Elec. Contr., Hollywood, Cal.
 Matheny, Allie, (Woledge), 3253 Girard Ave., Minneapolis, Minn.
 Matheny, Fred, Patent Attorney, 2004 L. C. Smith Bldg., Seattle, Wash.
 Morrison, Joseph, County Agr. Agent, Madison
 Nagel, Herman, Salesman, Minneapolis, Minn.

Ort, A. A., Civil Engineer, Lt. U. S. N., % Eng. in Chief, Port au Prince, Haiti

Palm, Andrew, Co. Agr. Agt., Watertown

Sexauer, Elmer, Grain, Brookings

Sheldon, Nettie, (Atkinson), Coal Harbor, N. D.

Wahl, Walker W., Science Instructor, Miles City, Mont.

Welch, Cecile, (Sexauer), Brookings

Wohlheter, Vern, Attorney, Watertown

Yocom, Frank, Inst. in Manual Training, Holtville, Cal.

PHARMACY GRADUATES

Brown, Geo. B., Druggist, Clark

Goldthorp, George, Druggist, Conde

Morrison, Joseph, County Agr. Agent, Madison

Williams, Arthur, Pharmacist, Aberdeen

Class of 1911

MASTER OF SCIENCE

Sarvis, Johnson, Special Agent, U. S. Exp. Station, Mandan, N. D.

White, Orland, Botanist, Brooklyn Botanical Gardens, Brooklyn, N. Y.

BACHELOR OF SCIENCE

Balmat, John, Captain U. S. A., Yankton

Catlett, Marguerite (Smith), Rapid City

Coolege, Leslie, Asst. Prof. Bacteriology, East Lansing, Mich.

Cottingham, Jay T., Mgr. Lumber Co., Hastings, Neb.

Erwin, Ruth (Bibby), Brookings

Finley, Vollmar, Farmer, Bushnell

Fridley, Bess (Fromme), Blacksburg, Va.

Fridley, Richard, Died Aug. 23, 1912, at Lake Benton, Minn.

Fromme, Fred, Prof. of Bot., Va. Inst. of Technology, Blacksburg, Va.

Gropengieser, Fred, Died December 15, 1918, at Onida

Haas, Carrie (Quinn), Died July 3, 1919, at Badger

Hallen, Harold, Electrical Engineer, Ord, Neb.

Huntemer, Percy, Co. Agr. Agt., Melrose, Minn.

Jarman, Maebell (Antonides), Brookings

Johnson, Clifford, Died September, 1912, at Huron

Knutson, Geneva (Flittie), Brookings

Ladd, Amy (Preston), R. F. D., Brookings

Mathewson, Lynn, Mech. Eng., 6219 Kenwood Ave., Chicago, Ill.

McMillian, Orville, Prin. School, Harrold

Meharg, Max, Elec. Eng., 1040 Georgia St., Los Angeles, Cal.

Mitchell, Harry, Elec. Eng., 300 Emerson Ave. S., Minneapolis, Minn.

Odland, Ole M., Minister, 606 Capital St., Yankton

Peterson, Helen, Dietitian, Lutheran Hospital, Lacrosse, Wis.

Plocker, Florence (Shelden), Manchester, Ia.

Quinn, Roy, Inst. Agriculture, Lemoore, Cal.

Randall, Frank, Pres. Star Electric Co., Aberdeen

Sherwin, Muriel (Stoll), Brookings

Starring, Cecil, Asst. in Hort., State College, Bozeman, Mont.

Swenehart, John, Ext. Dept., State Uni., Madison, Wis.

Throop, Lotta (Odland), Parker

Tinker, Mabel (Wells), Brookings

Wilson, R. O., Prof. Business Education and Registrar, Montana State College, Bozeman, Mont.

PHARMACY GRADUATES

Fellows, Carl, Druggist, Plankinton
 Martin, Earl S., Merchant, Elk Point
 Serles, Earl, Prof. of Pharmacy, S. D. S. C.
 Shea, Henry, State Chemist, Helena, Mont.
 Vis, Heyme, Druggist, Midland

Class of 1912

BACHELOR OF SCIENCE

Atwood, Geo. B., Veterinarian, Arlington
 Bibby, Erwin J., Proprietor Creamery, Brookings
 Bisbey, Guy R., Prof. Plant Pathology, Manitoba University, Winnipeg, Canada
 Datchler, Fred J., Farmer, Whitewood
 Edson, Ray W., Elec. Eng., Peoria, Ill.
 Erdman, Henry E., Instructor Agr. Economics, Dept. Ed., Markets Div., U. of Cal., Berkeley, Cal.
 Granger, Paul F., Civil Eng., R. D. No. 154, Modesto, Cal.
 Hathaway, Floyd C., Co. Agr. Agent, Grafton, N. D.
 Jensen, Russell C., Adv. Agt., "Service World," Brookings
 Kremer, Henrietta (Furnstahl), Ajo, Ariz.
 Larson, John E., Farmer, Vancouver, Wash.
 Marchant, Guy B., Elec. Eng., Service Mgr., General Service Inc., 20 Sidney Place, Minneapolis, Minn.
 Oakland, Irwin S., Dentist, Iroquois
 Peck, Arthur R., Elec. Eng., 11 Second St., Schenectady, N. Y.
 Pence, Clay, Elec. Salesman, 826 Ramsey Ave., Wilkinsburg, Pa.
 Reeve, John E., Elec. Engr., 11 Northumberland Rd., Pittsfield, Mass.
 Revell, Grace (Bailey), P. G. Student, Chicago Univ., 6108 Kimback, Chicago, Ill.
 Sauder, Wm. O., County Agr. Agt., Center, Colo.
 Schaphorst, Ben, Lawyer, Brookings
 Skinner, Lila, Inst. Home Economics, Merrill-Palmer School, Detroit, Mich.
 Sparks, Henry, Civil Engineer, Mitchell
 Stearns, Arthur J., Proprietor Garage, 1020 N. 22nd Street, Boise, Idaho
 Welker, Verne E., Elec. Engr., % N. W. Paper Co., Cloquet, Minn.

PHARMACY GRADUATES

Bacon, Harry, Druggist, Edgemont
 Christianson, Helen (Quinn), Pharmacist, Badger
 Clark, Robt. W., Died March 26, 1919, at Sioux Falls
 Farnham, Bernice, Druggist, Waubay
 Farrar, Vere, Pharmacist, Langford
 Grant, Clyde, Pharmacist
 Holleman, William, Pharmacist, Springfield
 Holstrom, Will, Died 1918, in Service
 Leavitt, Ethel, Pharmacist, Milbank
 Morton, Richard, Druggist, Bend, Ore.
 Serles, Raymond, Died June, 1916, at McCall, Idaho

Class of 1913

BACHELOR OF SCIENCE

- Basgen, Fred, Civil Eng., Duluth, Winnipeg & Pac. Ry., 410½ E. 4th St., Duluth, Minn.
- Binnewies, Edward R., Assoc. Prof. of Chem., S. D. S. C.
- Brigham, Ruth, Teacher, Brinklow, Md.
- Cole, Glenn H., Farmer, Gary, S. D.
- Dunn, Everett, W., District Eng., 1321 S. Newton St., Sioux City, Ia.
- Engstrom, Carl, Supt. Hutchinson Division, Northern States Power Co., Hutchinson, Minn.
- Faulkner, Hugh, Farmer, Burkmere
- Fowlds, Matthew, Ass't in Agronomy, S. D. S. C.
- Freiberg, George, Chemist, Com. Solvents Corp., Terra Haute, Ind.
- Greenly, Maurice, P. G. Student, Leland Stanford Univ., Palo Alto, Cal.
- Gurslee, Chris B., Dentist, 1636 Marshall Field Annex, Chicago, Ill.
- Heiser, Agnes K. (Yunker), Barnard
- Huyck, Nina B., Dom. Sci. Dem., Rupert, Idaho
- King, Chas. S., Rural Mail Carrier, Watertown
- Kremer, Ralph C., Mining Eng., Ajo, Ariz.
- Landweer, Earl, Meter Supt., 724 W. 17th St., Sioux Falls
- McHugh, Frank James, Farmer, Aberdeen, S. Dak.
- Matheny, Hazel (Haslen), Seward, Nebraska
- Morrow, Strayer (Sauder) Center, Colorado
- Morrison, Guy E., Inst. in Agr., Gandy, Nebraska
- Nilsson, Anna (Patterson), Henning, Minn.
- Nord, Roy A., State's Attorney, Faulkton
- Olson, Thomas G., Elec. Eng., Canby, Minn.
- Pier, Clarence L., Dairy Inspector, Room 704, 408 Atlantic Ave., Boston, Mass.
- Rilling, Harry E., State Club Leader, N. D. A. C., Fargo, N. Dak.
- Sanderson, Harry M., County Agr. Agent, Cottonwood
- Shanley, Clarence, Creamery Operator, 615 S. Second St., Sioux Falls
- Shea, Henry, State Chemist, Helena, Montana
- Shepard, Helen (Atwood), Long Beach, California
- Sloan, Edith, Demonstrator Home Economics, Extension Div., Aberdeen
- Somers, Grace (Phillips), Brookings
- Sponholz, Lydia (Britzius), Madison
- Templeton, Mabel (Johnson), Hetland
- Wood, Ruth A. (Burton), Hot Springs

PHARMACY GRADUATES

- Eidsmoe, Clark T., Pharmacist, Beresford
- Johnson, Arthur F., Druggist, Dent, Minn.
- Lawler, Frank M., Druggist, Central Drug Co., Sioux Falls
- Null, Ralph H., Pharmacist, Wessington Springs
- Simpson, Wm. R., Pharmacist, Flandreau
- Soule, Roy H., Druggist, Farmer
- Tommeraasen, Corne, Pharmacist, Larchwood, Ia.
- Wornson, Walter A., Physician and Surgeon, Hartford, Wisconsin

Class of 1914

BACHELOR OF SCIENCE

Armstrong, Lillian (Kirlin), 5580 Greenway, Detroit, Michigan
 Armstrong, Inez (Hunt), Home Dem. Agt., Yakima, Washington
 Ausman, Leslie V., Vocational Project Work, Watertown.
 Britzius, Arno, Farmer, Madison
 Bushey, Alfred, Chemist, Agronomy Dept., S. D. S. C.
 Casley, Lulu (Spilde), Bryant
 Chappell, Vincent, Prof. Dairy Mfg., Agr. Col., Corvallis, Oregon
 Clifford, Perry, Farmer, Cresbard
 Dulitz, Helen, Teacher, 2700 Fourth Ave., Seattle, Washington
 Elliott, Robert, Chemist U. S. Food Lab., 4144 Arcade Building, Seattle, Washington
 Gilbertson, George, Associate Professor of Entomology, S. D. S. C.
 Gotthold, Roy, Building Contractor, Redfield
 Grinols, Hazel (Palm), Canton
 Gropengieser, Bessie, Abstractor, Onida
 Halladay, Clinton, Construction Eng., Brookings
 Hartgering, Frances, Instructor, Rapid City
 Hegdahl, Paul, Civil Eng., Madison
 Heck, Emil, Eng. of Tests, U. S. Forests Products Lab., Madison, Wis.
 Hofstetter, Clarence, Capt. U. S. Army, Student Mass. Inst. of Technology, 179 E. Boylston, St., Watertown, Mass.
 Knutson, Charlie O., Electrician, Canby, Minn.
 Legler, Edward V., Switchboard Sales Dept., G. E. Co., Schenectady, N. Y.
 Luebke, Esther (Gaffy), Pierre
 Persun, Francis J. E.
 Sexauer, Laura, Instructor Home Ec., School of Agr., S. D. S. C.
 Shepard, Albert D., Chemist, Long Beach, Cal.
 Slightam, Kate, Instructor in Home Economics, Rockford College, Rockford, Ill.
 Sherwood, Reginald, Agri. Biochemist, U. of M., 1440 Arona Ave., St. Paul, Minn.
 Sloan, Sam, County Agr. Agent, Hot Springs
 Somers, Ruth (Haugen), Brookings
 Valentine, Vey, County Agr. Agent, Sturgis
 White, Henry D., Farmer, Florence
 Wilkins, Scott, Asst. in Farm Crops, Iowa State College, Ames, Iowa
 Wood, Nina (Sloan), Hot Springs
 Wills, Ernest V., Elec. Eng., Westinghouse Mfg. Co., 10 Waverly St., Springfield, Mass.

PHARMACY GRADUATES

Eng, Julius, Druggist, Vienna
 Kadinger, Lewis, Pharmacist
 McDougall, Tyrell, Physician, P. G. Student, Cornell U., Ithaca, N. Y.
 Nelson, Lewis, Physician, Asbury Hosp., Minneapolis, Minn.
 Ray, Winifred, Druggist, Aurora
 Shaw, Albert J., Pharmacist, Miller
 Sivertson, Anna (Potter), Pharmacist, Andover

Class of 1915

MASTER OF SCIENCE

- Binnewies, Edward R., Assoc. Prof. of Chem., S. D. S. C.
 Mayland, George R., Fruit Grower, Baldwin Park, Cal.
 Shea, Henry, State Chemist, Helena, Mont.
 Sherwood, Reginald, Agr. Biochemist, U. of M., 1440 Arona Ave., St. Paul, Minn.
 Sloan, Sam, Co. Agr. Agent, Hot Springs

BACHELOR OF SCIENCE

- Bolland, Jens, Died Nov., 1919, at Minneapolis, Minn.
 Caldwell, Florence (Heck), % Forests Products Lab., Madison, Wis.
 Caldwell, Lacey, Farmer, Wells, Minn.
 Clarke, Bruce, Pharmacist, 3710 Summit St., Kansas City, Mo.
 Cooley, Hazel (Keddie), Bear Lake, Mich.
 Culhane, Alexander, Proprietor, Huron Milk Depot, Huron
 Culhane, James, Elec. Eng., 2009 9th St., Des Moines, Ia.
 Drury, Lillian, Secretary, Chamberlain
 Freeman, John, Died March, 1919, at Rapid City
 Gardner, Harry B., Farmer, Rapid City
 Gilbert, Gladys (Ortmayer), Huntley, Mont.
 Graham, William B., Farmer Freeport, Minn.
 Hale, Ruth (White), Arena, Wis.
 Iverson, Carrold, Assoc. Prof. Dairying, State College, Ames, Ia.
 Johnson, Carl J., County Engineer, Clear Lake
 Jones, A. Patti, Instructor, Home Ec., Watertown
 Keck, Dallas, Farmer, Yankton
 Kremer, Frank, Lawyer, Watertown
 Lanphier, Ira, Civil Engineer, 22 Lathrop St., Madison, Wisconsin
 Lynch, Arthur, Head Mark. Div., State Agr. Ass'n., 1412 E. 67th Place, Chicago, Ill.
 Nixon, Jessie, Instr. Home Ec., St. Paris, Ohio
 Nord, Florence, Art Instructor, 6536 Kimbark Ave., Chicago, Ill.
 Pilmer, Miller, Elec. Eng., 810 Lincoln Ave., Des Moines, Iowa
 Potter, Ernest C., Minister, Mansfield, Pa.
 Serles, Earl, Prof. of Pharmacy, S. D. S. C.
 Wornson, Walter, Physican and Surgeon, Hartford, Wisconsin

PHARMACY GRADUATES

- Abbott, Walter G., Pharmacist, Iroquois
 Clarke, Bruce E., Pharmacist, 3710 Summit St., Kansas City, Mo.
 Colliton, Ora A., Pharmacist, 487 Dayton Ave., St. Paul, Minnesota
 Giannonatti, Elene, (Stensland), Pharmacist, Ludlow
 Haugen, Martin Bernard, Pharmacist, Hartford
 Little, Guy Almond, Druggist, 1088 W. 7th St., Riverside, California
 Loesch, William Patrick, Druggist, Oldham
 Olson, Edward Furness, Merchant, Clark-McClurg Building, Kingsbury, California
 Randall, Harry Eugene, Pharmacist, Plankinton
 Tolagson, Clarence Ferrold, Pharmacist, Brookings

Class of 1916

MASTER OF SCIENCE

- Bolland, Jens, Died Nov., 1919, at Minneapolis, Minnesota
 Gilbertson, George L., Asso. Prof. of Entomology, S. D. S. C.
 Loomis, Howard, Farmer, South Haven, Michigan
 Morrison, Joseph, County Agricultural Agent, Madison
 Rilling, Harry, E., In charge of Boys and Girls Club Work, Extension
 Department, Agricultural College, Fargo, N. Dak.
 Sherwood, Reginald, Agr. Bio. Chemist, U. of M., 1440 Arona Ave.,
 St. Paul, Minnesota

BACHELOR OF SCIENCE

- Abbott, Cleveland, Instr. in Dairying, Industrial and Educational Institute, Topeka, Kansas
 Allison, Arthur, Elec. Eng., G. E. Co., Schenectady, N. Y.
 Anderson, Georgia, Instr. Home Economics, Harlowton, Montana
 Austin, Ethel, P. G. Student, Columbia University, 106 Morningside Drive,
 New York, N. Y.
 Avery, Blanche (Johnson), Brookings
 Bergeim, Joseph, Principal High School, Mandan, N. Dak.
 Caldwell, Kate (Weber), Care U. of F., Gainesville, Florida
 Calkins, Fred, Elec. Eng., St. Lawrence
 Chapman, Daphne (Serles), Brookings
 Dawes, Adelia (Miller), Instr. Home Economics, State Normal, Normal
 Station, Natchitoches, La.
 Dott, Delia (Waters), Whitewood
 Evers, Clarence P.,
 Fish, Warren D., Civil Eng., Good Roads Commission, Pierre
 Fridley, Harry, Principal Schools, Brentford
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 Heiser, Marie, Teacher, Frederick
 Humphrey, Francis, Instr. Manual Tr. and Coach, Estelline
 Jerlow, Morris, Prin. High School, Milbank
 Johnston, Ralph E., Agr. Extension Specialist, S. D. S. C.
 Kennard, Geo. C., Co. Agr. Agent, Sioux Falls
 Knutson, Robt., Instructor in Agriculture, Spencer
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 Lynch, Ruth, (Culhane), Huron
 Matson, Mamie, Instr. in English, Ortley
 Miller, Harold, Physician, Charity Hosp., Shreveport, La.
 Mills, Erma Davis, Werthmiller Apts., Tiffin, Ohio
 Nelson, Lewis E., Physician, Asbury Hosp., Minneapolis, Minn.
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 Schlatter, Chas. F., Instr. in Accounting, Univ. of Ill., Urbana, Ill.
 Sheehan, Bernard F., Sec. Western Seed Growers Marketing Co., Salt
 Lake City, Utah.

Slaatta, Emma (Johnson), Sleepy Eye, Minn.
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 Smith, Homer, Member State Fair Board, Rapid City
 Waltner, Benj. P., Instr. in Agr., Freeman College, Freeman
 Warner, Harry, Assistant in Soils, Iowa State College, Ames
 Weber, Geo., Prof. Plant Pathology, U. of F., Gainesville, Fla.
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PHARMACY GRADUATES

Anderson, A. Edward, Druggist, Brookings
 Burton, Starling, Pharmacist, 3227 Starr St., Lincoln, Neb.
 Corkhill, Clifford, Medical Student, 5543 Blackstone Ave., Chicago
 Hemingway, Robt. W., Physician, Mattoon, Ill.
 Holzman, A. J., Med. Student, U. of S. D., Vermillion
 Langdon, Hazel (Nelson), Clear Lake
 Lenoher, Paul, Pharmacist, 4712 S. Van Ness Ave., Los Angeles, Cal.
 Peterson, Edw., Pharmacist, LeMars, Ia.
 Rasmussen, Ethel, Pharmacist, San Jose, Cal.
 Tabor, Floyd, Pharmacist, Garretson

Class of 1917

MASTER OF SCIENCE

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 Chicago, Ill.
 Serles, Earl, Prof. of Pharmacy, S. D. S. C.
 Whitehead, Lindsey W., Instructor Civil Eng., State College, Pa.

BACHELOR OF SCIENCE

Ainsworth, Ernest C., With Blue Valley Creamery Co., Duluth, Minn.
 Anderson, Eldon C., Merchant, Pierre
 Anderson, O. Leon, Farmer, Rapid City
 Bennett, Lyle L., Instr. Man. Training, Newell
 Browning, Lenore (Cummings), Mandan, N. D.
 Chappell, Mabel (Safford), 617 W. 12th St., Sioux Falls
 Cunningham, Ray C., Y. M. C. A., State Univ., 1033 15th Ave., S. E.,
 Minneapolis, Minn.
 Dakin, Norman, Butter Inspector, Bureau of Markets, Chicago, Ill.
 DeGreef, Chas. W., Prin. School, Odessa, Minn.
 Doughty, Walter E., Farmer, White
 Evans, Roy L., Civil Eng., Brookings
 Furnish, Alta (Fridley), Teacher, Brentford
 Glennon, Daniel C., Instr. in Agri., Emmetsburg, Ia.
 Gregory, Eva (Hill), Alexandria
 Heiser, Elizabeth, Instructor English, Frederick
 Hill, Joe, Farmer, Alexandria
 Holliday, Faye (Hawley), Brookings

Jennings, Hollace H., Banker, Clark
 Johnson, Ralph J., Implement Dealer, Calvin, N. D.
 Jones, Horace M., Dairy Specialist, Ext. Div., S. D. S. C.
 Karlstad, Chas. H., Capt. U. S. A., Infantry School, Ft. Benning, Ga.
 Keating, Pearl (Kienholz), U. of P., Manila, P. I.
 Kopperud, Harmon, State Banking Dept., Garden City
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 Sherwood, Aubrey, Editor Kingsbury County News, DeSmet
 Skinner, Cecil, Died March 13, 1919, at Bruce
 Smith, Harry A., Civil Eng., State Highway Com., Pipestone, Minn.
 Stoddart, Mattie M., Instr. Home Ec., Deadwood
 Swenehart, Millie (Carley), R. No. 2, Cortland, Ohio
 Swift, Eugene, Farmer, Estelline
 Wagner, Colman H., Farmer, Selby
 Waltner, Adolph L., Farmer, Freeman
 Waltner, Caroline A., County Superintendent, Freeman
 Wattson, Donald A., Merchant, Lower Brule
 Westgate, Louis A.
 Winright, Geo., County Agr. Agent, Salem
 Ziegler, Arlene, Mgr. Tea Room, 216 6th Ave. North, Nashville, Tenn.

PHARMACY GRADUATES

Bissell, Wm. E., Druggist, Plankinton
 Dahl, Clarence A., Pharmacist, Pierpoint
 Ford, Lucille, Mgr., Drugstore, 484 Brainard St., Detroit, Mich.
 Nickerson, Mary S., Pharmacist, N. P. Hosp., Tacoma, Wash.
 Overturf, Wm. M., Pharmacist, Parker
 Rottluff, Karl, Instr. in Phar., U. of K., Lawrence, Kas.
 Sanders, B. Harry, Druggist, Longstaff and Sanders, Huron
 Thompson, Albert M., Druggist, Belgrade, Minn.
 Walpole, Robert E., Pharmacist, Springfield

Class of 1918

BACHELOR OF SCIENCE

Ahlers, Naomi (Hoover), Marshall, Minn.
 Berglind, Axel, Died Nov. 8, 1918, in France
 Blakely, Clifford, County Agricultural Agent, White River

Boswell, Mildred (Ames), Brookings
 Caldwell, Jessie, 807 N. Virginia St., Gainesville, Fla.
 Clark, Esther (Nielsen), Valley City, N. Dak.
 Crofoot, Vanita, Instructor in Home Economics, Courtenay, N. D.
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 Dokter, Garrett, Farmer, Andover
 Evans, Marguerite (Martin), 22 W. Garrison St., Bethlehem, Pa.
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 Gilbert, Chas. J., County Agricultural Agent, Faulkton
 Goddard, Bertin, Attorney, Hot Springs
 Gretschnann, Anna, Instructor Home Ec., Birmingham, Ala.
 Grinols, Mavis (Danielson), Ravinia
 Grinols, Violet, Teacher, Kealahakua, Hawaii
 Hanson, Hazel (Matejka), Prin. High School, Gregory
 Hewett, Howard, Farmer, Arlington
 Holliday, Lloyd, Prin. High School, Ft. Pierre
 Hoon, Glenn, Boys' Work, Central Y. M. C. A., Minneapolis, Minn.
 Hoover, Harold, Instructor in Agr., Marshall, Minn.
 Hyde, G. Hara, Prin. Schools, Hudson
 Hutchinson, Ethel (Cunningham), 512 Delaware St., S. E., Minneapolis, Minn.
 Hyde, Lloyd, with Tracey Loan and Trust Co., Salt Lake City, Utah
 Jonson, Ira, Real Estate, Kadoka
 King, Gladys (Hanson), Siren, Wis.
 Laird, Walter S., Elec. Eng., Hippee Bldg., Des Moines, Ia.
 Layson, Stanley V., Asso. Editor Dairy Farmer, Waterloo, Ia.
 Lothrop, Orlin, Electrical Engineer, Redfield
 McFadden, Edgar, Seed Grower, Webster
 Mills, Oscar, Farmer, Wall
 Mueller, Arthur, Farmer, White River
 Pickett, H. Hubbie, Civil Eng., State Highway Commission, Pierre
 Pier, Leonora (Getschell), Woonsocket
 Randall, Elizabeth, Instructor Home Ec., Farmington, Wash.
 Reid, Phyllis (Gilbertson), Brookings
 Revell, James, Died January 23, 1918, at Brookings
 Rilling, Elsie, Instr. Home Ec., Eveleth, Minn.
 Riis, Jens, Creamery Proprietor, Mobridge
 Simons, Stella (Frimoth), Clinton, Ia.
 Stevens, Florence, Instr. Home Ec., Redfield
 Styer, Clarence, Civil Eng., 3743 N. 30th St., Tacoma, Wash.
 Tompkins, Arthur, County Agr. Agent, Hayti
 Urton, J. Raymond, Farmer, Fulton
 Ustrud, Ida (White), Florence
 Voss, Edward F., Supt. City Schools, Doland
 Webb, Grace (Notestine), Brentford

PHARMACY GRADUATES

Bittner, Albert, Druggist, Cresbard
 Nielsen, H. Arther, Pharmacist, Rapid City
 Roos, John, Druggist, Mellette
 Sletten, Anthony, Died February, 1919, in U. S. Service

Trumm, Archie, Druggist, Grove City, Minn.

Wilson, Bliss, Pharmacist, Miller

Class of 1919

MASTER OF SCIENCE

Jackson, Thomas J., Supt. of Schools, Round Lake, Minn.

Phillips, Geo. C., Died May 8, 1921, at St. Paul, Minn.

BACHELOR OF SCIENCE

Aldrich, Dorothy (Jones) Brookings

Atkinson, Ray, Instructor in Manual Training, Redwood Falls, Minn.

Bacon, Lulu (Wilson), Miller

Batien, Anna E., Instructor in Home Economics, Chatfield, Minn.

Bentley, Norma, Instr. English, Hopkins, Minn.

Bergeim, Frank, Asst. Prof. Chemistry, Columbia, U., 1940 Broadway,
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Browning, Albert M., Salesman, Am. Book Co., Huron

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Collinge, Verne, Instr. Agr., Northern Normal and Industrial School,
Aberdeen

Cook, Orlan P., Instuctor Manual Training, Humboldt

Daniels, Blair (Read), Rupert, Idaho

Drury, Joseph, Farmer, Chamberlain

Faulkner, Drew J., Civil Eng., Dakota Eng. Co., Mitchell

Frease, Kathyrn, Teacher, Corvallis, Oregon

Giere, Verne Alex, Physician, Lutheran Hospital, St. Paul, Minn.

Green, Carrol Gardner, Instr. Hist., Carthage College, Carthage, Ill.

Hast, Sidonia B., Matron, State Normal, Aberdeen

Hogstad, Anton, Asso. Prof. Pharmacy, S. D. S. C.

Hurlbert, Roy O., Farmer, Raymond

Hutton, Lynn D., Field Asst., U. S. Dept. of Agr., S. D. S. C.

Johnson, Gustaf, Farmer, Lake Norden

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Mathews, Hubert James, Magazine Illustrator, Westport, Conn.

Millett, Helen (Evans), Flandreau

Mills, Fern, Principal Schools, Spencer

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Oertli, Ralph, Farmer, R. F. D., 2, Aberdeen

Randall, Pearl V., Instr. Home Ec., Lead

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Smith, Alida, Instr. Home Economics, Elk Point

Somers, Esther Mae (Sponsler), Brookings

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 Wood, Laura A., Instr. Eng. and Hist., Hot Springs

PHARMACEUTICAL CHEMIST

Locke, C. A., Druggist, Webster
 Roos, John, Druggist, Mellette
 Wilson, Bliss, Pharmacist, Miller

PHARMACY GRADUATES

Bird, Charlie L., Pharmacist, Doland
 Christianson, Mabel, Pharmacist, Sioux Falls
 Connelly, Emma, Pharmacist, Graettinger, Ia.
 Cornwell, Floyd M., Pharmacist, Webster
 Elliot, Warren G., Pharmacist, 9 Spokane St., Walla Walla, Wash.
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 Staley, Jas. M., Pharmacist, Red Lodge, Mont.
 Turner, Verne C., Druggist, Wall
 Weber, R. B., Pharmacist, Nat'l San., Hot Springs

Class of 1920

MASTER OF SCIENCE

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BACHELOR OF SCIENCE

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 Campbell, Dyar H., Salesman, Rochester, Minn.
 Chase, Elizabeth, Instr. Eng., Chester
 Chappell, Genevieve, Instr. Home Economics, Flandreau
 Coughlin, Thos., Salesman, in care of K. C. Club, Huron
 Culhane, Chas M., Instr. in Agriculture, Bryant
 Dalthorp, Chas J., Instr. Chem. and Physics, Aberdeen
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- Day, Helen (Lorshbough), Dom. Sci., Dem. Agt., Huron
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Gaylord, Clair E., Sci. Instr., Sand Point, Idaho
Gilkerson, David L., Farmer, Armour
Graves, Chas L., Farmer, Ashton
Halverson, Harry M., Instr. in Agriculture, Egan
Hansen, Eva (Gilkerson), Armour
Headley, John, Supt. Schools, Castlewood
Hermanson, Peter, Ruthtown, Minn.
Hood, Kenneth L., Medical Student, Tulane Uni., New Orleans, La.
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Hutchinson, Florice (Bastian), Redfield
Iverson, Bernard, Farmer, Madison
Jackson, Clark, Instr. Teachers' College, Emporia, Kans.
Johnson, Clarence, Instructor in Agriculture, Cresbard
Johnston, Helen, Instr. Home Economics, Pierre
Johnson, Jas. G., Civil Eng., Died Mar. 1923 at Pierre
Johnson, Oreat, Instr. Home Ec., Enderlin, N. D.
Keck, Myrtle, Instr. Home Economics, Allen Normal School, Thomasville, Ga.
Kneebone, John H., Instr. Agr., Eveleth, Minn.
Ladd, Leonard, Co. Agr. Agt., Rapid City
Marshman, Clinton, Civil Engineer, State Highway Com., Pierre
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Sacre, Carl A., Instr. Agriculture, Plankinton
Sheldon, Rachel (Watson), Brookings
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Solberg, Harry, Asst. Mech. Eng., Purdue Univ., Lafayette, Ind.
Stevens, Leo, Civ. Eng., N. Pac. Ry., Wichita, Kan.

Stumley, Alfred M., Farmer, Volga
 Swift, Cecile (Porter), Albion, Neb.
 Thelin, Guy, Instr. in Agronomy, Mass. Agr. College, Amherst, Mass.
 Tempkins, Blanche, Instr. Home Economics, Allen Normal School, Thom-
 asville, Ga.
 Trenner, Ephraim, Died Feb. 26, 1921 at Brookings
 Valentine, Geo., State Boys and Girls Club Leader, Brookings
 Vera, Genaro, Agriculturist, Cochabamba, Bolivia, S. A.
 Vollmer, Louis W., Farmer, Brentford
 Walseth, Edwin, Instr. Agr., Farmer
 Walseth, Russell, Instr. Agr., Barnard
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 Woodruff, Lewis, County Agr. Agent, Onida

PHARMACEUTICAL CHEMIST

Madsen, Mars L., Med. Student, U. of Wis., Madison, Wis.
 Rottluff, Karl, Instr. Phar., U. of K., Lawrence, Kansas
 Weber, Robert Boyd, Pharmacist, Nat. San., Hot Springs

PHARMACY GRADUATES

Greening, John J., Pharmacist, Dell Rapids
 Lawson, Harold A., Pharmacist, Hankinson, N. D.
 Laxson, Oliver G., Pharmacist, Lisbon, N. D.
 Jones, Victor E., Druggist, Clark
 Mallery, Esther, Pharmacist, DeSmet
 May, Gurney G., Voc. Tr. School, St. Louis, Mo.
 Nielsen, Susie (Schram), Pharmacist, Lead
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 Pinard, Noel L., Pharmacist, Wagner
 Price, Charles R., Druggist, 5017 Burt St., Omaha, Neb.
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Class of 1921

MASTER OF SCIENCE

Kumlien, Wendell F., Acting Director, Extension Work, S. D. S. C.

BACHELOR OF SCIENCE

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 Bruce, Marion, Farmer, Wall
 Buck, Bonnie (Hutton), Brookings
 Burge, Violet (Headley), Castlewood
 Chase, Marcus, Prof. Chemistry, McKenzie College, Sao Paulo, Brazil
 Cram, Elmer E., Instr. in Agric., Milbank
 Cushing, Marie (Johnson), Instr. in Home Ec., Cresbard
 Dye, Emmett C., Prin. Schools, Wasta
 Emerson, Wm. H., Died, March 1923 at Pierre
 Erie, Frances, Instr. in English, Brookings
 Gardner, Richard H., Instr. Consolidated School, Madison
 Gilbert, Paul, Instr. Agri., Britton
 Gilbertson, Gilbert, Creamery Proprietor, Moberg
 Haahr, Erwin H., P. G. Student, U. of M., Ann Arbor, Mich.

Hansen, Ross P., Engineer, Brookings
 Hobbs, Oscar, Telephone Engineer, Minneapolis, Minn.
 Huchindorf, Ina, Instr. Home Ec., Groton
 Hutchinson, Hazel, Instr. Home Ec., Webster
 Jacobs, Dewirt N., Farmer, Elkton
 Janssen, Geo., Instr. in Agronomy, U. of W., Madison, Wis.
 Johnson, Palmer, Civ. Eng., State Highway Com., Yankton
 Knutson, Wilma, Instr. in English, Enderlin, N. D.
 Kopland, David V., Dairyman, Mankato Holstein Farm, Mankato, Minn.
 Lippert, Lorenz C., Co. Agric. Agt., Selby
 Merriman, Grace (Wallace), Britton
 Olson, Clarence G., Prin. of Schools, Rutland
 Paulson, Joseph T., Instr. Agric., Arlington
 Paz Torrico, Marion, Plantation Mgr., Cochabamba, Bolivia
 Peck, Clifford, Farmer, Hazel
 Pepple, Irma (Dye), Science Instr., Wasta
 Pratt, Pearl E., Instr. Home Economics, State Normal, Spearfish
 Pultz, Ella C. (Wind), Instr. Com. Science, Lake Benton Minn.
 Rottluff, Karl, Instr. in Pharmacy, U. of K., Lawrence, Kas.
 Shinn, Elvin O., Telephone Eng., Minneapolis, Minn.
 Sievers, Geo., Civ. Eng., Highway Com., Peoria, Ill.
 Spitzer, Lena, Instr. Home Ec., Brookings
 Street, Thomas M., Chemist, State Drug Com., Vermillion
 Urton, Harold, Instr. Agr., Letcher
 Vold, Geo. B., P. G. Student, Northwestern Univ., Evanston, Ill.
 Walker, J. F., Elec. Eng., G. E. Co., Ballstrom Lake, N. Y.
 Yeamans, Bessie (Balcom), Instr. Home Ec., Bonesteel
 Ziegler, Pearl (Janssen), 144 N. Chapter St., Madison, Wis.

PHARMACEUTICAL CHEMIST

Laxson, Oliver J., Pharmacist, Lisbon, N. D.

PHARMACY GRADUATES

Carson, Donald M., Pharmacist, Mott, N. D.
 French, Geo. D., Student S. D. S. C.
 Hough, Inez C., Student, S. D. S. C.
 Jones, Otho Jenkins, Druggist, Ashton
 Knudsen, Sigurd V. Pharmacist, Woonsocket
 Lloyd, Geo. W.
 McGuire, Thos. I., Pharmacist, Grafton, N. Dak.
 McKay, John James, Druggist, Pierre
 Myron, Selina D., Pharmacist, Vermillion
 Nelson, Harold C., Pharmacist, Centerville
 Robbins, Norma A., Pharmacist, Redfield
 Rolfe, Esther E., Pharmacist, Madison, Minn.
 Silvernale, John, Pharmacist, Watertown
 Tommeraasen, Otto J., Pharmacist, Huron

Class of 1922

MASTER OF SCIENCE

Biggar, George, Ill. Editor, Agr. Assn., 608 S. Dearborn St., Chicago, Ill.
 Hogstad, Anton J., Associate Prof. of Pharmacy, S. D. S. C.

BACHELOR OF SCIENCE

- Abrahamson, Ada, Instr. Eng., Bath
 Atkinson, Ruth, Instr. Home Ec., Ashton
 Beals, Daniel L., Asst. Secretary, S. D. S. C.
 Bjur, J. Emil., Elec. Eng., 2900 Wash. Blvd., Chicago, Ill.
 Britson, Abner J., Science Instr., Arlington
 Brinker, Chas J., Elec. Eng., Westinghouse Mfg. Co., 520 Jeanette St.,
 Wilkinsburg, Pa.
 Brown, Esther M., Instr. Home Ec., Lake Andes
 Burkhart, Lyle R., Instr., Agric., Blunt
 Clark, Velda D., Instr. Home Ec., Humboldt
 DeBoer, Dewey J., Elec. Eng., G. E. Co., Schenectady, N.Y.
 Delker, S. F., City Supt., Chester
 Duessing, Ragnvald Bergeson, Elec. Eng., 2914 Washington Blvd.,
 Chicago, Ill.
 Erickson, Eric E., P. G. Student, State Univ., Iowa City, Iowa
 Evans, Ella Mae, Instr. Home Ec., Clear Lake
 Forsee, Zeta A., (Salisbury), Brookings
 Funk, Virgil C., Civil Eng., Good Roads Com., Champaign, Ill.
 Hanson, Marie J., Instr. Home Ec., State Normal, Springfield
 Haroldson, Robert E., Civil Eng., State Highway Com., 361 E. Main
 St., DeQuoin, Ill.
 Helgerson, Arthur, Civil Eng., State Highway Com., 510 Metropolitan
 Building, E. St. Louis, Ill.
 Jarman, Ruby E., Brookings
 Korstad, Elvin H., Prin. Schools, Hetland
 Kurrasch, John H., Civ. Eng., State Highway Com., Peoria, Ill.
 Kurtz, Wm. A., Instr. Agric., Geddes
 Laxson, Oliver G., Pharmacist, Lisbon, N. D.
 Leavitt, Donald F., Civ. Eng., State Highway Com., Champaign, Ill.
 McMillan, Mrs. Edith K., Instr. Eng., Hetland
 Matthews, Earl F., Civ. Eng., State Highway Com., Champaign, Ill.
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 Provost, Beth H., Instr. Home Ec., Britton
 Renwick, Margaret, Instr. Eng., Arlington
 Riley, Edna M., Instr. Home Ec., Redfield
 Salisbury, Jas A., P. G. Student, S. D. S. C.
 Sloat, Ora M., Instr. Home Ec., Castlewood
 Solberg, Elizabeth A., Instr. Mathematics, Brookings
 Tehon, Ollie C., Instr. Home Ec., Mobridge
 Thornber, Hubert E., Civ. Eng., State Highway Com., Champaign, Ill.
 Towers, Ralph E., Civ. Eng., State Highway Com., Elgin, Ill.
 Underwood, Paul, Science Instr., Bryant

PHARMACEUTICAL CHEMIST

- French, George, Student, S. D. S. C.
 Hough, Inez, Student, S. D. S. C.

PHARMACY GRADUATES

Ainsenbrey, Huldrich S., Pharmacist, Menno
Craun, Violet, Pharmacist, Mobridge
Dempster, Wallace G., Pharmacist, Woonsocket
DeRoos, Fred, Pharmacist, Avon
Duffner, Florian A., Pharmacist, Watertown
Ennis, Andrey H., Student, S. D. S. C.
Fryer, Albert R., Jr., Pharmacist, Miller
Greening, Ernest W., Student S. D. S. C.
Goplin, Arthur N., Pharmacist, Brookings
Lawrence, Phoebe A., Student, S. D. S. C.
LeBlanc, Floyd J., Assistant in Pharmacy, S. D. S. C.
Loesch, J. Albert., Druggist, Oldham
Owen, Seward E., Pharmacist, Brookings
Paulson, Andrew E., Pharmacist, Castlewood
Ronne, Anthony E., Jr., Pharmacist, Java
Rufer, Grace E., Student, S. D. S. C.
Schaller, Jos W., Student, S. D. S. C.
Widdis, Murray J., Pharmacist, Chamberlain
Wilson, Bernice E., Pharmacist, Dallas

Student List

The following abbreviations are used to indicate the different lines of study students are pursuing: Agr.—Agriculture; A. M.—Auto Mechanics; C. E.—Civil Engineering; Com.—Commercial; Cor.—Correspondence; Cream.—Creamery Short Course; E. E.—Electrical Engineering; Engin.—Engineering; Fresh.—Freshman; G. S.—General Science; H. E.—Home Economics; Jr.—Junior; M. E.—Mechanical Engineering; Phy.—Pharmacy; Prep.—Preparatory; Ptg.—Printing; Secy.—Secretarial; Soph.—Sophomore; Sr.—Senior.

COLLEGIATE POST GRADUATES

Beithon, Elmer J., Brookings
Bollinger, John R., Cochrane, Wis.
Brinker, Charles, Madison
Copeland, Lynn, Hutchinson, Kansas
Coulson, A. A., Volga
Ford, A. L., Brookings
Hansen, Ross P., Withee, Wis.
Hogstad, Anton, Jr., Brookings
Hutton, Lynn, Brookings
Keene, Purley L., Brookings
Kumlien, W. F., Brookings
McCullough, Halle D., Brookings

Mathews, Mrs. Eva., Brookings
Maugh, Lawrence, Milford, Mich.
Morrison, Sherman, Iowa City, Iowa
Robbins, Walter, Carthage
Salisbury, James A., Presho
Spitzer, Lena, Edgely, N. D.
Stumley, Alfred, Volga
Stites, Mary A., Brookings
Grinnells, C. D., Brookings
Valentine, George, Brookings
Wells, Clarence F., Brookings
Wagner, Rush, Brookings

SENIORS

Aldrich, Merton (Agr) Pierre
Anderson, Marion L. (EE) Estelline
Avery, Glenn (Agr) Alexandria
Backman, Adolph (Agr) Shadehill
Beatty, Audrey (HE) Elrod
Belk, Vida M. (GS) Henry
Bemies, Carl L. (GS) Brookings
Bemies, Clifton (GS) Brookings
Billings, Floyd (Agr) Geddes
Blecker, Sam (GS) Brookings
Brande, Leland (GS) Alexandria
Brown, Elizabeth (GS) Brookings
Bulger, Raymond (Agr) Brookings
Carey, Eugene (EE) Salem
Coffey, Frank (Agr) Watertown
Corcoran, George (EE) Centerville
Cram, Wilbur (GS) Maxbass, N. D.
Craun, Horace (EE) Willow Lakes
Cutler, Jesse (GS) Brookings
Dalthrop, Richard (CE) Yakima, Wash.
Davies, Ross D. (Agr) Lead
Dybdahl, Clarence (Com) Brookings
Engbretson, Laura (GS) Garretson
Englehorn, Alfred (Agr) Wagner
Enright, Harold (Com) Brookings
Estensen, Stanley (GS) Sherman
Fenn, Benjamin (Agr) Brookings
French, Dewey (Phy) Frankfort
Fryer, Elsie (GS) Doland
Gough, Ethel (HE) Canova
Graves, Ben (Agr) Clark
Greening, Ernest (Phy) Milbank
Griffith, Wm. Mibra (Agr) Cresbard
Halversen, Irene (HE) Brookings
Halversen, Mamie (HE) Brookings
Hansen, Philip W. (Agr) Brookings
Harvey, Gertrude (HE) Pierre
Headley, Frank (EE) Menno
Hedrick, Lucille (Com) Rapid City
Henry, Leon (EE) Volga
Henry, Nellie (GS) Volga
Hoon, Ruth (GS) Cottonwood
Hoy, Dale (GS) Brookings
Hough, Inez (Phy) Glenham

Jennings, Albert (Phy) Sioux Falls
Johnson, Garland (GS) Brookings
Johnson, Art W. (ME) Neenah, Wis.
Keith, Florence (GS) Ellingston
Larson, Guy A. (Agr) Brookings
Lee, Irwin (CE) Volga
Mann, Bernice (GS) Brookings
Mathews, Hermine (HE) Brookings
Michaels, Walter (Agr) Watertown
Moulton, Wesley (Com) Cresbard
Ondell, Vernon (EE) Conde
Ohrhans, Venie (HE) Brookings
Orvis, C. F. (Agr) Brookings
Peppers, Ralph (CE) Groton
Peterson, Harriet (Com) Brookings
Pittenger, William (GS) Brookings
Prunty, Earl (Agr) Hartford
Prunty, Glenn (Agr) Hartford
Reinecke, Irene (HE) Beulah, Wyo.
Revell, Frank (Agr) Brookings
Riley, Louise (HE) Parker
Roan, Otto (Com) Luverne, Minn.
Rude, Ida (GS) Brookings
Rude, Minnie (GS) Brookings
Sayre, Lawrence (Agr) Brookings
Schooler, Harry (Agr) Brookings
Sexauer, Verna (HE) Brookings
Shaw, Robert (EE) Hazel
Smith, Joseph M. (Agr) Sioux Falls
Snyder, Francis (EE) Estelline
Staven, Julian (GS) Brookings
Thomas, Alma (GS) Mitchell
Thomson, Hazel (GS) Harrisburg
Thune, Leonard (Agr) Albert Lea, Minn.
Tieszen, Abraham (GS) Marion
Tompkins, Lawrence (Ptg) Brookings
Towers, John L. (CE) Clear Lake
Wallis, Carrol (Agr) Mitchell
Walseth, Clarence (EE) Clear Lake
Walter, Glenn (Agr) Madison
Welty, Earl (GS) Brookings
Wold, Ruby (HE) Brookings
Wright, Floyd (Agr) Haynes, N. D.
Ziegler, Hortense (HE) Brookings

JUNIORS

- Anderson, Giles (GS) Fulton
 Ayer, Dorothy (HE) Lead
 Baldridge, Bernadine (GS) Brookings
 Belk, Ethel (GS) Henry
 Blecker, Henry (CE) Brookings
 Brown, Perry (Phy) Tripp
 Buene, Ellen (GS) Columbia
 Burgeson, W. Bernard (Phy) Bryant
 Cheever, Herbert (GS) Brookings
 Clobes, Raymond (EE) New Ulm, Minn.
 Cram, Arthur (GS) Maxbass, N. D.
 Dempster, Anna (HE) Brookings
 Dodds, Russell (GS) White Lake
 Doolittle, Meryl (GS) Ipswich
 Durkee, Margaret (HE) Mitchell
 Eldredge, Zella (GS) Volga
 Emmelius, Beatrice (GS) Iroquois
 Ennis, Audrey (Phy) Volga
 Fairchild, Emma (GS) Elbon
 Fargo, Mark (GS) Gayville
 Forsee, Frances (GS) Brookings
 Frasco, Josephine (HE) Brookings
 Fryer, Nellie (GS) Doland
 Fuller, Charles (Agr) Dupree
 Gannon, Earl (Agr) Fulton
 Gerber, Loris (Com) Worthing
 Goplin, Clara (GS) Brookings
 Gray, Gladys (HE) Flandreau
 Griffith, O. Ruth (HE) Cresbard
 Gullick, Kenneth (CE) Brookings
 Haines, Augustus L. (Agr) Mitchell
 Hall, Russell (EE) Aberdeen
 Hartung, Ralph (Agr) McLaughlin
 Haugen, Orpha (HE) Brookings
 Hawley, Errol (Agr) Brookings
 Hepner, George (CE) Brookings
 Heathcote, Marion (Agr) Watertown
 Heywood, Ruth (GS) Brookings
 Hillestad, Harry (Com) Volga
 Hoffbeck, Roy (GS) Big Stone City
 Hoy, Vere (ME) Brookings
 Husebo, Lois (HE) Madison, Minn.
 Jackson, Florence (HE) Highmore
 Kuhlman, Milton (GS) Beaver Dam, Wis.
 Lampe, Mae (Com) Tyler, Minn.
 Larson, Lee (CE) Colton
 Lawrence, Phoebe (Phy) Mitchell
 Lawson, James (CE) Brookings
 LeBlanc, Floyd (Phy) Foley, Minn.
 Lee, Fenton (EE) Hot Springs
 Leighty, Charles (CE) Brookings
 Lerret, Anker (CE) Brookings
 Locke, Rush (Agr) Brookings
 McCarty, Albert (CE) Cavour
 McGill, Emily (HE) Brookings
 McKenna, Hurley (Phy) Milbank
 Martin, Emmett (GS) Brookings
 Martin, Lester (GS) Brookings
 Matheny, Mrs. B. (GS) Brookings
 Mathews, Zoa (HE) Brookings
 Maurer, John (CE) Newell
 Mears, Kirk (Agr) Brookings
 Merry, Isabel (HE) Dell Rapids
 Monfore, Howland (Com) Springfield
 Moore, John (GS) Edgerley, N. D.
 Mortensen, Marie (GS) Brookings
 Motley, Willis (Agr) Frankfort
 Myre, Alvilda (GS) DeSmet
 Neyhart, M. W. (ME) Gorman
 Olson, Ruby (GS) Brookings
 Palmer, Herald (EE) Brookings
 Palmer, Theo Jane (GS) Flandreau
 Parker, Vilas (GS) Hazel
 Patterson, Geo. (EE) Jasper, Minn.
 Powers, Howard (GS) Brookings
 Revell, Lucy (HE) Brookings
 Rice, Donald (Agr) Pierre
 Rice, Dorothy (HE) Pierre
 Rick, Francois (GS) Corsica
 Rishoi, Roy (GS) Adrian N. D.
 Roberts, E. Meredith (GS) Painsville, Ohio
 Roberts, George (GS) Brookings
 Rufer, Grace (GS) Brookings
 Samuel, Cecil (ME) Brookings
 Schaller, Joseph (Phy) Raymond
 Schraeder, Esther (GS) Miller
 Scott, Ernest (GS) Brookings
 Sharp, Josephine (GS) Bristol
 Shelton, Cleo (HE) Dupree
 Smith Fay (Com) Brookings
 Smith, Ralph (Com) Willow Lake
 Solberg, Ruby (GS) Brookings
 Sorenson, James (CE) Springfield
 Sorenson, Waldemar (Com) Langford
 Starr, Herman (Agr) Mitchell
 Street, Orman (Agr) Revillo
 Sullivan, Frederic (CE) Florence
 Sundal, Inda (GS) Colton
 Thelin, Milo (CE) Sioux Falls
 Thomas, Ethel (HE) Lead
 Thompson, George (CE) Ft. Dodge, Iowa
 Tompkins, Melba (Com) Egan
 Torwick, Edward (GS) Volga
 Towers, Stanley (CE) Clear Lake
 Tripp, Ted (GS) White Lake
 Warfield, Clarence (Phy) Vermillion
 Wedgwood, Jessie (HE) Trent
 Whitehead, Don (Phy) Brookings
 Yule, Marion (HE) Brookings
 Yule, Robert (CE) Brookings

SOPHOMORES

- Albertus, Viola (HE) Rock Rapids, Iowa
 Allison, A. Dwight (Agr) White
 Alness, Thelma (Com) Canton
 Anderson Abner (Phy) L. Benton, Minn.
 Anderson, Blanche (GS) Estelline
 Anderson, Edna (GS) DeSmet
 Anderson, William (Agr) Sioux City, Iowa
 Arner, Frances (Com) Frankfort
 Beithon, Mrs. Ruby (GS) Brookings
 Bender, George (Phy) Brookings
 Berry, John (GS) Willow Lakes
 Bowers, Myron (Phy) Minneapolis
 Brackett, Richard (EE) Brookings
 Breen, Luther (Phy) Volin
 Britzmann, Herbert (GS) Beaver Dam, Wis.
 Brookens, Bessie (GS) Parker
 Bruns, Emory (ME) Watertown
 Bryan, Mable (HE) Toronto
 Burroughs, Tessie (Music) Huron
 Caldwell, Ralph (Agr) Brookings
 Caldwell, Ruth (HE) Brookings
 Callahan, Gladys (Spec) Brookings
 Carter, Lyle (GS) Sisseton
 Coffey, Robert (CE) Watertown

Coolidge, Wesley (Phy) Redfield
 Cooper, Roland (EE) Ipswich
 Cooper, Ann (GS) Bonilla
 Corkill, Duane (Phy) Hurley
 Coulter, George (Agr) Ipswich
 Coyne, Edmund (Com) Ethan
 Croston, Irene (GS) Garretson
 Deethardt, Theodore (EE) Brookings
 Donabedian, Avedis (EE) Damascus, Syria
 Doner, Harold (Agr) Brookings
 Dott, Robert (GS) Aurora
 Dupper, Fred (GS) Eureka
 Dybvig, Henry (EE) Colton
 Eagle, Gertrude (GE) Wessington Springs
 Edwards, Lucille (Spec) Capa
 Eberhard, Wesley (EE) Lane
 Elmer, A. Nowland (Com) Avon
 Englehorn, Carl (Agr) Wagner
 Erie, John (Com) Brookings
 Estensen, Mabel (GS) Sherman
 Farrel, Leon (Phy) Dell Rapids
 Falk, Anne (HE) Garretson
 Fassett, Violet (Com) Brookings
 Fear, Dorothy (HE) Ipswich
 Fish, Francis F. (Agr) Ipswich
 Foss, Byron (Com) Clark
 Freseman, Clarence (Agr) Lennox
 Gamble, William (EE) Wessington
 Gehant, Edmund (Agr) Canby, Minn.
 Gifford, Vivienne (HE) Clear Lake
 Gregory, Clark (GS) Alexandria
 Greguson, Helmer (Agr) Canton
 Grove, Vernon (Phy) Arlington
 Haber, Donald (GS) White
 Hahn, Bernice (Spec) Sioux Falls
 Halversen, Lewis (Agr) Brookings
 Hansen, Arthur (CE) Doland
 Hansen, Carl (Agr) Brookings
 Hansen, Eva R. (Phy) Kadoka
 Harrison, Mary (GS) Milbank
 Hartwick, Albert (Com) Brookings
 Hasle, Theodore (Com) Brookings
 Henry, Lloyd (Agr) Volga
 Herman, Dorothy (Music) Brookings
 Herold, Roy (GS) Waubay
 Hoch, Alfred (Com) Elkton
 Hoover, Kenneth (EE) Groton
 Hoy, Marguerite (HE) Brookings
 Hoyt, Myron (GS) Brookings
 Hubbard, Eleanor (HE) Brookings
 Hunstad, Viola (HE) Bath
 Hutton, Helma (HE) Brookings
 Inness, Clayton (EE) Brookings
 Jeglum, Chester (Ptg) Toronto
 Johnson, Ernest (GS) Gayville
 Johnson, Helen (GS) Aurora
 Johnston, Marion (HE) Quinn
 Jones, George (CE) Mitchell
 Jones, Morris (Phy) Aberdeen
 Kallestad, Audil (GS) Sioux Falls
 Kammerer, Teresa (GS) Rapid City
 Klein, Gideon (Com) Eureka
 Kelley, W. J. (EE) Elkton
 Kidman, Bert (Agr) Hazel
 Krause, Arthur (Phy) Leola
 Kreger, Stuart (CE) Clear Lake
 Kuhlman, Alvin (GS) Beaver Dam Wis.
 Kuper, Lester (Com) Lennox
 Larsen, Annette (Phy) Viborg
 Larson, John (Com) Midland
 Larson, Lloyd (Agr) La Crosse, Wis.
 Latt, Mable (Com) Castlewood
 LeFevre, Ethel (Com) Brookings
 Lewis, Alfred (Com) Arlington

Lewis, Irma (Phy) Mina
 Lichty, Fern (GS) Tracy, Minn.
 Lindblom, Edna (HE) Canova
 Lindblom, Inez (GS) Canova
 Lindsay, Richard (Com) Brookings
 Lippert, Leo (EE) Timber Lake
 Locke, Walter (EE) Castlewood
 McCullough, Mrs. Zalia (GS) Brookings
 McCurdy, Margaret (Spec) Highmore
 McGuire, Gerald (GS) Philip
 McManamy, Linus (GS) Aberdeen
 McPherson, Esther (GS) Pierre
 Malmgren, Edwin (Com) Brookings
 Matson, Wilford (Phy) Brookings
 Miles, Hall (GS) Brookings
 Minder, John (EE) Sisseton
 Morton, William (EE) Brookings
 Murray, Bernard (Agr) Parker
 Murray, Joe (Agr) Parker
 Nelson, Clarence (ME) Yankton
 Nelson, Elsie (GS) White Lake
 Oleson, Calvin C. (CE) Lemmon
 Olson, Robert C. (Com) Brookings
 Olson, Robert L. (GS) Volga
 Owen, Ross (Agr) Fort Scott, Kan.
 Payne, Alma (Phy) Emmett, Idaho
 Person, Hjalmer (CE) Hitchcock
 Peterson, Clifford (CE) Doland
 Phillips, Rowland (Agr) Philip
 Pierce, Earl J. (Agr) Webster
 Porter, Wilhelmina (GS) Ft. Pierre
 Prescott, Verneil (GS) Tracy, Minn.
 Proctor, Dorothy (Com) Alexandria
 Puhr, Leo (Agr) Brookings
 Pultz, Leon (GS) Brookings
 Rasmusson, Joel (Phy) Lead
 Reinecke, Vera (HE) Beulah, Wyo.
 Renshaw, Charles (Agr) Armour
 Riley, Louis (Phy) Parker
 Risty, Karl (Agr) Corson
 Ryger, Irwin (Agr) Brookings
 Rodman, Ernest (Phy) Hitchcock
 Schmidt, Ruth (HE) Avon
 Schrader, Ina (GS) Brookings
 Schultz, Philo (CE) Iroquois
 Schutte, Clarence (Agr) Aberdeen
 Scoville, Albert (GS) Forman, N. D.
 Sederstrom, Eleanor (GS) Arlington
 Seeman, Frederick (Agr) Brookings
 Segers, Lunita (GS) Davisboro, Ga.
 Severin, Clair (Phy) Philip
 Shannon, Isabel (Phy) Pierpont
 Sharon, Otto (Phy) Kadoka
 Shook, Emily (HE) Gordon, Neb.
 Slaterry, William (CE) Springfield
 Somers, Gladys (HE) Brookings
 Soule, William (Agr) Brookings
 Sour, Vera (GS) Castlewood
 Spooner, Meriel (GS) Brookings
 Stanton, Ed. (GS) Mitchell
 Steile, Carl (GS) Philip
 Stitt, Lyle (Agr) Hitchcock
 Strobele, John (EE) Ipswich
 Svoboda, Charles (EE) Cicero, Ill.
 Swanson, Fred (Agr) Sioux City, Iowa
 Taft, Lucretia (GS) Chamberlain
 Thompson, Clare (EE) Brookings
 Toll, Estella (Com) Dupree
 Tunnlicliff, Joe (Phy) Alexandria
 Umback, Charles (Agr) Lemmon
 Urton, Lester (Phy) Fulton
 Vance, Russel (Phy) Ft. Bennet
 Vandervelde, Ce'im (Phy) Big Stone City
 VanOrnum, Earle (CE) Doland

Vogelsang, Ella (Phy) Albee
 Voigt, Russell (GE) Albert Lea, Minn.
 Wanke, Floyd (Music) Hartford
 Wanke, Genevieve (Music) Hartford
 Watson, Verne (UE) rhiup
 Webster, Katherine (HE) Brookings

Welch, Cecil (GE) Brookings
 Weich, Frank (Agr) Madison
 Williams, Helen (Phy) Le Mars, Iowa
 Wilson, Allen (EE) Aberdeen
 Woodbury, Bruce (EE) Gary
 Woodward, Herbert (GS) Hurley

FRESHMEN

Adams, Herbert (Com) Castlewood
 Adams, Mabel (GS) Lake Preston
 Aisenbrey, Talitha (GS) Menno
 Allen, Merrill (CE) Canistota
 Allison, Winifred (Com) Brookings
 Alton, Harry (CE) Brookings
 Arneson, Ralph (EE) Howard
 Arns, Wallace (CE) Doland
 Arten, Margaret (GS) Summit
 Aslakson, Harry (GE) Brookings
 Atkinson, Edward (CE) Brookings
 Barber, George (Agr) Owanka
 Bartle, Emery (Agr) Clark
 Beadle, Lockey (Agr) Hudson
 Bedessem, Ruth (Com) Brookings
 Beck, Margaret (HE) Lake Preston
 Beiers, Cornelius (Phy) Parker
 Berg, Martin (EE) Newell
 Bidne, Burnell (EE) Flandreau
 Bigelow, Alice (GS) Flandreau
 Black, Doris (GS) Big Stone City
 Black, Dorothy (GS) Big Stone City
 Blecker, John (Agr) Brookings
 Blote, Alice (HE) Estelline
 Bottum, Carroll (GS) Tulare
 Boyden, Lewis (Agr) Platte
 Braught, Clarence (GS) White Lake
 Brevik, Arnold (Com) Gary
 Brewer, Bernard (EE) Howard
 Brown, Florence (HE) Brookings
 Brown, Kenneth (CE) Canton
 Brown, Mildred (GS) Brookings
 Brown, Opal (GS) Brookings
 Buene, Erika (HE) Columbia
 Buffington, Mrs. Vera (HE) Hot Springs
 Buffington, Harley (CE) Hot Springs
 Bunday, Glen F. (GS) Arlington
 Burbidge, Lucille (Com) Hazel
 Cach, Raymond (Com) Scotland
 Cameron, Edna (HE) Aberdeen
 Case, Meta (Com) Brookings
 Cermak, Amel (Com) Lake Andes
 Chase, Loren (Agr) Willow Lake
 Chaussee, Leona (Com) Pierre
 Chaussee, Myrtle (Com) Pierre
 Chenoweth, Frances (HE) Wolsey
 Christensen, Alma (Com) Brookings
 Christensen, Leona (HE) Brookings
 Christiansen, Wm. F. (Agr) Watertown
 Christopherson, Irene (HE) Brookings
 Clark, Oscar (Agr) Plankinton
 Cole, Marjorie (GS) Brookings
 Collins, Charles (GS) Aurora
 Cooper, Forrest (Com) Brookings
 Crowell, Milton (Com) Brookings
 Crowley, Harold (Phy) Linton, N. D.
 Davidson, Eva (GS) Waubay
 DeGroff, Maude (Music) Hutchinson, Minn.
 Dewey, Bruce (CE) Moberge
 DeWitte, Ellsworth (EE) Highmore
 Dickson, Olive (HE) Caspian, Mich.
 Dobson, Henry (Com) Alexandria
 Dybdahl, Nellie (HE) Brookings
 Dye, Hollis (Music) Chamberlain

Eddy, Belle (HE) Brookings
 Edwards, Clifford (Phy) Russell, Minn.
 Ellis, Helmer (Agr) Wendte
 Emerson, Emery (EE) Bryant
 Emerson, Raymond (GS) Castlewood
 Engle, Herbert (Com) Lake Andes
 Englehorn, Theodore (Phy) Wagner
 Enright, Charles (Com) Brookings
 Erickson, Clifford (GS)
 Erickson, Ellen (GS) Unityville
 Fellbaum, Walter (Com) Hammer
 Fenn, Forrest (Agr) Brookings
 Flittie, Howard (Com) Brookings
 Frandsen, Earl (GS) Plankinton
 Friel, Oswald (GS) Wetonka
 Fryer, James (EE) Doland
 Gackle, Daniel (Phy) Parkston
 Garrret, J. Herman (GS) Fruitdale
 Gearhart, Winnifred (Com) Philip
 Gelston, Harold (EE) Doland
 Gifford, Elaine (GS) Alexandria
 Gilbert, H. F. (EE) Buffalo
 Gilow, Leonard (GS) Dawson, Minn.
 Glanzer, William (GS) Bridgewater
 Glenn, Raymond (Com) Timber Lake
 Gordon, Max (Phy) Hitchcock
 Gray, Dorothy (Com) Flandreau
 Gray, Maurice (CE) Watertown
 Gregg, Robert (Agr) Hartford
 Gudehus, Hilda (Com) Brookings
 Guevara, William (Agr) Cochabamba, Bolivia
 Haag, Edward (EE) Frankfort
 Hansen, William (GS) Aberdeen
 Harder, Elmer (Agr) Gregory
 Haroldson, Gail (HE) Brookings
 Harrington, Ray (EE) Iroquis
 Hartley, Max (Com) Hetland
 Harvey, Howard (EE) Parker
 Hasle, Nora (HE) Brookings
 Hawley, Elmer (GS) Howard
 Haywood, Frances (Com) Henry
 Headley, Jasper (GS) Menno
 Hedblom, Lloyd, (Agr) Aberdeen
 Hegdahl, Victor (Com) Nunda
 Henneous, Lucille (Phy) White Lake
 Hetland, John (Agr) Montrose
 Hinde, Richard B. (Agr) Forestburg
 Hinman, Miriam (GS) Redfield
 Hobbs, Pearl (Music) White Lake
 Hook, John (EE) Centerville
 Horrigan, Lester (GS) Woonsocket
 Horrigan, Mildred (HE) Woonsocket
 Horton, Ralph (CE) Gregory
 Howard, Elaine (HE) Blunt
 Hubbard, Marion (HE) Brookings
 Hume, Albert (Agr) Brookings
 Hyde, Elsie (HE) Brookings
 Jacobsen, Daniel (Agr) Brookings
 Jamison, Darrell (Com) Brookings
 Jenkins, Clarence (Com) Yankton
 Jensen, Paul (Com) Humboldt
 Jerde, Grace (HE) Brookings
 Jermstad, Ruby (HE) Brookings

Johnson, Loren (Phy) Brookings
 Jones, James (CE) Philip
 Keith, Hale (EE) Sioux Falls
 Kieffer, Ferdinand (Agr) Rapid City
 Kile, Edith (Phy) Hitchcock
 Killam, Dora (GS) Farmingdale
 Kimball, Harold (Phy) Sioux Falls
 Kurtz, Theodore (Agr) Brookings
 Lamos, Donald (Phy) Groton
 Larson, Courtney (Agr) Bryant
 Larson, Kenneth (GS) Brookings
 Lauer, Morton (Phy) Watertown
 Lee, Alvena (GS) Volga
 LeMay, Orville (Agr) Northville
 Leshner, Harry (Phy) Onida
 Linstadt, Sylvia (GS) Menno
 Lippert, Oscar (EE) Timber Lake
 Little, Daniel (GS) Wagner
 Longman, Mable (HE) Brookings
 Lundy, Curtis (GS) Castlewood
 Lux, Paul (Phy) Revillo
 McAuley, Dave (Agr) Watertown
 McDonald, Charles (Agr) Madison
 McGraw, David (GS) Ft. Pierre
 McKay, Archie (Phy) Pierre
 McKnight, Herschel (Com) Brookings
 Main, Lee (Com) Hartford
 Main, Leota (GS) Hartford
 Mainer, George (Agr) Albert Lea, Minn.
 Manbeck, Gladys (GS) Armour
 March, Alta (HE) Pierre
 Marquette, Harvey (GS) Albee
 Marshman, Fae (HE) Brookings
 Martin, Lois (HE) Brookings
 Mateer, Albert (Agr) Pierre
 Maxfield, Lyle (Phy) Milbank
 Meek, Earl (Com) Raymond
 Melstad, Merle (Com) Hetland
 Miller, Donald E. (Agr) Rapid City
 Miller, Muriel (Com) Watertown
 Miller, Virgil (GS) Egan
 Minard, Warren (Agr) Midland
 Minier, Laura (HE) Brookings
 Mitchell, Donald (GS) Brookings
 Monge, Gregory (Agr) Tiflis, Caucasus
 Mortensen, Arthur E. (Agr) Brookings
 Mortensen, Arthur O. (Agr) Irene
 Moulton, Paul (CE) Cresbard
 Munro, Margaret (Phy) Winner
 Nelson, Alma (HE) Brookings
 Nelson, Arnold (Phy) Brookings
 Nelson, Kermit (EE) Pierre
 Nelson, Leslie (Com) Yankton
 Nesson, Anna Belle (HE) Brookings
 Norman, Rose (HE) Brookings
 Nygaard, Rolfe (GS) Houghton
 Nyman, Elsie (Com) Brookings
 O'Hara, Bernice (HE) DeSmet
 O'Heran, Naomi (GS) Flandreau
 Orvedahl, Rudolph (GS) Flandreau
 Osborne, Russa (Com) Brookings
 Osborn, Zola (HE) Aberdeen
 Owen, Headley (EE) Lemmon
 Michaelian, Bagdassar (Agr) Turkey
 Papazian, Mugerditch (Agr) Adrianople
 Greece
 Pearson, Julian (Phy) Webster
 Perkins, Francis (GS) Brookings
 Peters, Karl (Com) Parker
 Peterson, Alfred (Phy) Moritz
 Peterson, Byron (Ptg) Pelican Rapids,
 Minn.

Peterson, Edna (GS) Arlington
 Pettis, Leslie (Com) Brookings
 Popowski, Bert (GS) Grafton, N. Dak.
 Quam, Sidney (Agr) Mansfield
 Questad, Myrtle (GS) Brookings
 Raak, Bentley (GS) Brookings
 Rebstock, Frances (Music) Russel, Minn.
 Reeves, Ellis (Com) St. Lawrence
 Richards, Charley (Phy) Spencer
 Rietz, Edgar (GS) Salem
 Rietz, Arthur (EE) Salem
 Riley, Victor (CE) Doland
 Robson, Inez (HE) Madison
 Roghalt, William (Com) Volga
 Rosenow, Oscar (Agr) Bryant
 Rossez, Earl (Phy) Fairbault, Minn.
 Scarbro, Keith (GS) Brookings
 Schaller, Philip (Phy) Raymond
 Schmitz, Ray (EE) Adams, Minn.
 Scholl, John (Phy) Gregory
 Seker, Alfred (EE) Lake City
 Scoville, Charles (CE) Forman, N. D.
 Seitz, Orval (Agr) Ethan
 Sheppard, Don (Agr) Brookings
 Sheppard, Forrest (Agr) Brookings
 Smith, Clifford (GS) Oldham
 Smith, Harold (GS) Tracy, Minn.
 Smith, Irene (Com) Sutherland, Iowa
 Smith, Lewis (EE) Miller
 Solberg, Clarence (ME) Brookings
 Spencer, Harold (Com) Falls City, Nebr.
 Spooner, Vesta (HE) Brookings
 Sterud, Clara (HE) Pierre
 Stewart, Jack (GS) Grafton, N. D.
 Stone, Winifred (HE) Andover
 Straub, Theodore (Com) Eureka
 Straw, Windsor (EE) Jasper, Minn.
 Street, Beatrice (GS) Revillo
 Street, Margaret (HE) Revillo
 Sundet, Wilfred (Agr) Brookings
 Swab, Preston (Agr) St. Lawrence
 Swartout, Edwin (GS) Gann Valley
 Taylor, Margaret (GS) Ipswich
 Temperino, Leo (Phy) Terry
 Thomas, Doland (CE) Ipswich
 Thome, Willard L. (Com) Aberdeen
 Thoreson, Gotfred (Phy) Dell Rapids
 Tronson, Palmer (EE) Glenham
 Toll, George (Com) Dupree
 Toph, Joseph (CE) Pierre
 Torwick, Anna (GS) Volga
 Tresner, Murle (Com) Darlington, Wis.
 Trotter, Helen (HE) Junius
 Tschetter, Susie (GS) Carpenter
 Tuttle, Elwin (Com) Canton
 Vanderplaats, Andrew (Agr) Brookings
 VanMetre, Henry (Agr) Fedora
 Waby, Floyd (GS) Arlington
 Wagner, Emil (Com) Selby
 Wakey, Viola (HE) Brookings
 Walklin, Howard (GS) Castlewood
 Walsh, Merle (GS) Watertown
 Walters, Olive (GS) Ft. Branch, Ind.
 Warrell, James (Phy) Dell Rapids
 Watkins, Vernon (EE) Brookings
 Weaver, Lloyd (CE) Gettysburg
 Welch, Earl (Agr) Madison
 Wheeler, Theodore (Agr) Wessington
 Springs
 Whitehead, Paul (Phy) Brookings
 Wiedman, Clarence (Phy) Parkston

Wik, Victor (GS) Millard
 Wilkins, Martin (Phy) Iroquois
 Williams, Ruby (GS) Pierre

Winje, Irwin (EE) Britton
 Woodward, Olive (Com) Hurley
 Young, Francis, A. (HE) Wessington

UNCLASSIFIED

Bairy, Esther (Music) Brookings
 Barber, Mrs. Winifred (Music) Brookings
 Bennett, Charles (Music) Aurora
 Benson, Mrs. E. R. (Music) Vermillion
 Boyd Mrs. James (Music) Brookings
 Brietson, Mabel (Music) Brookings
 Cantonwine, Lulu (Music) Brookings
 Clark, Mrs. F. C. (Art) Brookings
 Curry, Mrs. W., Elk Point
 Curry, William J. (Agr) Elk Point
 Cole, Olive (Music) Brookings
 Fairchild, Mrs. C. (GS) Elbon
 Forsee, Mrs. R. B. (Art) Brookings
 Griffin, Mrs. F. O. (Music) Brookings
 Hall, W. E. (GS) Brookings
 Harms, Mrs. F. E. (Art) Spain
 Hegarty, Mrs. Eva, Brookings
 Hillestad, Alma (Music) Volga
 Hoyt, Mrs. Esther (HE) Brookings
 Hubbard, Mrs. Evelyn T. (Art) Brookings
 Jennings, Mrs. T. H., (GS) Brookings
 Jespersen, Anna (Com) Holmquist
 Johnson, Mrs. Art M. (Music) Brookings
 Koenig, Caroline (Music) White

King, Nellie (Music) Brookings
 Lewis, Mrs. Mabel (HE) Brookings
 Lothrop, Grover (Agr) Aberdeen
 Maurer, Mrs. Gertrude (Com) Brookings
 McConnell, Mrs. F. D. (Art) Brookings
 Minger, Marie (HE) Gregory
 Norby, Mrs. Thomas (Music) Brookings
 Norwold, Florence (Music) Volga
 Otradovec, Mrs. Chas. (Music) Brookings
 Pfeifer, Mrs. Ethel (Music) Wood
 Pierce, Mrs. E. J. (Music) Webster
 Pirsch, Mary E. (HE) Brookings
 Pittenger, Mrs. N. M. (Music) Brookings
 Puhr, Marie (Com) Brookings
 Ray, Mrs. Victoria (Music) Brookings
 Roberts, Marguerite (Com) Painesville, O.
 Ross, Esther (GS) Brookings
 Smith, Mrs. C. E. (Music) Brookings
 Smith, Mrs. Hazel R. (Music) Coleman
 Snyder, Lucille (Music) Brookings
 Thompson, Mrs. C. (Music) Brookings
 Vanderplaats, Mrs. M. (Art) Brookings
 Weddle, Mrs. Alfred (Music) Traper
 Whitehead, Ruth (Music) Brookings

PREPARATORY—FOURTH YEAR

Billman, Albert, Tripp
 Boschker, Ben, Pollock
 Boyer, Dean, Frankfort
 Carpenter, David, Sioux Falls
 Estes, David, White River
 Gunderson, Rosella, Brookings
 Heinzen, Harry, Rockham
 Hoffman, Viola, Revillo

Jenkins, Harvey, Waubay
 Johnson, Richard, Volin
 Kopeland, Lucille, Brookings
 Reinecke, Emerald, Beulah, Wyo.
 Root, Mabel, Capa
 Seegrist, Theodore, Lake View
 Smith, Andy, White River
 Whitmer, Mabel, Clark

Houghton, Percy, Brookings

PREPARATORY—THIRD YEAR

Fenelon, William, Pollock
 Manning, Melvin, Miller

Wahlstrom, Carl, Parkston
 Wismer, Moritz, Britton

SCHOOL OF AGRICULTURE FOURTH YEAR

Barber, E. Ward, Onida
 Baxter, Eva B., Hazel
 Baxter, Everett Hazel
 Baxter, Oliver, Hazel
 Beatty, Wallace, Elrod
 Bergland, Peter C., Scotland
 Bever, Neil, Agar
 Bezner, Edna, Highmore
 Briscoe, Harold, Gorman
 Bue, Oscar, Grenville
 Burbidge, Robert, Hazel
 Burke, Francis, Faulkton
 Cooper, Charles, Doland
 Crisman, Hazel I., Armour
 Crisman, Owen, Armour
 Cumming, Ross, Broadland
 Doer, Howard M., Brookings
 Duff, Orville, Brookings
 Duryee, Elvie, Webster
 Ellison, Lester, Wakonda
 Erdman, Wayne L., Corsica

Fairchild, Jasper, Elbon
 Fred, Henry, Canova
 Freitag, William, Hitchcock
 Fuller, Mark, Naples
 Gillette, Francis, Hayti
 Hansen, Ernest, Beresford
 Jacobsen, Emil, Sioux Falls
 Killam, Arthur, Farmingdale
 Lievan, Wayne, Aurora
 Ludwig, Corydon, Onida
 Lundin, Emma, Springfield
 Manfull, Harry, Gettysburg
 Parshall, Charles, Colome
 Peregrine, Ervin, Mud Butte
 Peterson, Peter Jr., Lily
 Sloat, Phoebe, Gettysburg
 Steinhauer, Harold, Hitchcock
 Stitt, Rhea, Hitchcock
 Talsma, Martha, Springfield
 Trotter, Joseph, Provo
 Willi, Herbie, Detroit, Mich.

THIRD YEAR

Abild, Lyal, Wakonda
 Aldous, Charles, Henry
 Bawdon, Robert, Ree Heights
 Belau, William, Miranda
 Belau, Ernest, Miranda
 Brue, James, Centerville
 Bumgardner, Lester, White Lake
 Crane, Lyle, Reliance
 Crogstad, Leonard, Alcester
 Daugaard, Clara, Dell Rapids
 Forby, George A., Onaka
 Forby, J. Harold, Onaka
 Graber, Joseph, Marion
 Guenther, Kurt, Big Sone City
 Gunnarson, Roosevelt, Veblen
 Hagmann, Raymond, Ashton
 Halvorson, Paul, Sinai
 Hansen, Mertie, Freeman
 Hollister, Arthur, Sherman
 Iverson, Owen, Worthington
 Jensen, Alvin, Viborg
 Jensen, Gladys, Viborg
 Johnson, Addie, Grenville
 Johnson, Peter, Grenville
 Joy, Archie, Bunker

Killam, Edwin, Farmingdale
 Knappe, William, Farmingdale
 Kopeland, Ilo, Brookings
 Manfull, Frank, Gettysburg
 Monson, Albert, Reliance
 Nelson, Bennie, Dell Rapids
 Nelson, Harold, Centerville
 Painter, Charles, Colome
 Rawstern, Wilbur, Rockham
 Richard, Homer, Hitchcock
 Ronell, Clarence, Burbank
 Sander, Albert, Redfield
 Schoepp, Helen, Henry
 Smith, Mark, Northville
 Sueltz, Alfred, Groton
 Taft, Charles, Chamberlain
 Thoreson, Marlow, Clark
 Tompson, Marie, Dell Rapids
 Voyta, John, Mound City
 Voyta, Joseph, Mound City
 Waddell, Katherine, Garden City
 Waddell, Stanley, Henry
 Warren, Willard, Newell
 Welch, Clifford, Parkston
 Wilmer, Harry, Frankfort

SECOND YEAR

Anderson, Dana C., Lowry
 Anderson, George E., Manchester
 Anderson, Leonard, Winner
 Anderson, Leland
 Barton, Rex, Colome
 Bell, Henry, Flandreau
 Cable, Frank, Hudson
 Calder, Lyman, Wetonka
 Corey, Paul, Wendte
 Fagerland, George, Langford
 Fairchild, Clinton, Elbon
 Fairchild, Joe, Elbon
 Folvik, Arnold, Wakonda
 Furr, Aileen, White
 Gunderson, Eva, Brookings
 Haase, Henry, Parker
 Heller, George, Alfee
 Johnson, Leland, Bradley

Johnson, Merle R., Folsom
 Johnson, Obert, Wallace
 Knutson, Agnes, Ledgerwood, N. D.
 Kuehl, Theodore, Yale
 Larson, Earl, Flandreau
 Leibbert, Lester, Bushnell
 Martin, Leon, Cavour
 Molskness, Michael, Colman
 Mortvedt, Reuben, Vermillion
 Nelson, Reuben, Langford
 Nord, John A., Milbank
 Olson, Arnold, Brookings
 Olson, Olga, Brookings
 Ramsdell, John, Armour
 Schultz, Henry, Hetland
 Schultz, Theodore, Hetland
 Tofte, Erwin, Brookings
 Young, A. M., scenic

FIRST YEAR

Ahboltn, Fred, Hayes
 Albright, Harold, Volga
 Allen, Dorothea, Flandreau
 Andreason, Ernest, Folsom
 Bawdon, Reuben, Ree Heights
 Broadwine, Frank, Thomas
 Bouzek, Johnnie, Highmore
 Brandt, Alfred, Big Stone City
 Christianson, Clarence, Bruce
 Coates, Herrick, Provo
 Coyne, Emmett, Ethan
 Cranston, Howard, Huron
 DuVall, Wallace, Pukwana
 Ellingston, Belvina, Greenville
 Evans, Edgar, Sioux Falls
 Fasbender, Frank, Bruce
 Forney, Kenneth, Hereford
 Franklin, Chester,
 Frederickson, Anna Marie, Savage, Mont.
 Fuerstenau, Erwin, Hazel
 Grav, Harry, Dell Rapids

Grav, Roy, Dell Rapids
 Hasse, Sylvester, Parker
 Hansen, Oliver, Beresford
 Haugen, Alma, Brookings
 Kittleson, Augustine, Henry
 Lips, Ralph, Hitchcock
 McKim, Ronald, Wendte
 Miller, Walter, Tulare
 Mulder, Harco Altamont
 Norton, Patrick, Luverne, Minn.
 Parshall, Glen, Colome
 Richardson, Tom, Sedgwick
 Rukstad, Elbert, Florence
 Schmidt, Albert, Luverne, Minn.
 Silksens, Harris, Beresford
 Smidt, Harold, Freeman
 Smith, Loyd, DeSmet
 Starner, John, Edgemont
 Stearns, Herbert, Canton
 Stekl, Clarence, Letcher
 Stolte, Walter, Pukwana

Sudduth, Ray, Ft. Pierre
Tjostem, Carl, Lidgerwood, N. D.
Tufty, Theodore, Brookings

Von Wald, Ralph, Gettysburg
White, Benjamin, Marion
Yegge, Charles, Apena

Voyta, George, Mound City

*VOCATIONAL STUDENTS

Ackman, Carl (Agr) Brookings
Anderson, Eli (Agr)
Anderson, Laurence (Agr) Aberdeen
Anderson, Otto (Agr) Beresford
Anderson, Owen (Agr) Platte
Atkins, Oscar (Agr) Brookings
Axford, Angus (Agr) Estelline
Barnhart, Charles (Agr) Humboldt
Bauer, George (Agr) Lake City
Beck, John (Agr) Brookings
Bennett, Guy (Agr) Arlington
Beason, Clarence (Agr) Sioux Falls
Benson, Elmer (Agr) Vermillion
Bieljeski, Edmund (Agr) Foley, Minn.
Blair, Terrace (Agr) Sturgis
Bouse, John J. (Agr) Somerville, Mass.
Boyd, James (Spec) Sioux Falls
Bozarth, Casper (Agr) Wagner
Brandl, Frank (Agr) Sioux Falls
Brant, Charles (Agr) Sioux Falls
Brown, David (Agr) Isabel
Byran, Burrell (Agr) Herrick
Buehre, Lorne (Agr) Brookings
Buffington, Harley (Fresh) Hot Springs
Carpenter, David (Prep) Sioux Falls
Chief Eagle, Albert (Agr) Oglala
Christensen, Samuel (Agr) Brookings
Clark, Alex (Agr) Brookings
Clark, Jerde (Agr) Brookings
Clark, Luther (Ptg) Brookings
Clark, Warren (Agr) Brookings
Cornelius, Henry (Agr) Canton
Crawford, Charles (Agr) Roscoe
Cressman, Edward (Agr) Herrick
Curry, Wm. (Spec) Elk Point
Dahlin, Alfred (Agr) Sisseton
Dayton, Vinton (Agr) Wirock, Minn.
Deaton, Jack (Agr) Brookings
DeRue, John (Agr) Jasper, Minn.
Dimitroff, Mihail (Agr) White River
Doyle, Thomas (Agr) Colman
Dworak, Walter (Agr) Madison
Dwyer, James (Agr) Omenee, N. D.
Dybdahl, Arthur (Agr) Brookings
Edwards, Evan (Agr) Fairburn
Eierman, Walter (Spec) Donald
Ellis, Helmer (Agr) Wendte
Angel, Anthony (Agr) Gettysburg
Erdman, George (Agr) Newark
Eschen, George (Agr) Huron
Evans, Morris (Agr) Brookings
Everson, Alfred (Agr) Corsica
Fallon, Clarence (Agr) Brookings
Fellroth, Karl (Agr) Minneapolis, Minn.
Flakoll, Berthold (Agr) Bristol
Flureich, George (Agr) Brookings
Fluharty, Ivan (Agr) Ft. Pierre
Foley, Peter (Spec) Crocker
Frank, William (Agr) Brookings
Franzke, Clifford (Spec) Pukwana
Frost, Alfred (Agr) Lucas
Gapen, Paul (Agr) White River
Greese, Jacob (Agr) Lead
Greguson, Helmer (Soph) Canton
Griep, Rudolph (Agr) Brookings

Grotewold, W. H. (Agr) Brookings
Groves, William (Agr) Brookings
Haegle, Joseph (Agr) Pipestone, Minn.
Hames, Alfred (Agr) Brookings
Harder, Elmer (Fresh) Gregory
Harmon, Clarence (Agr) Pukwana
Harms, Frank (Agr) Spain
Hawley, Errol (Jr) Brookings
Heim, Corbett (Agr) Brookings
Hegarty, Joseph (Ptg) Parker
Henry, Lloyd (Soph) Volga
Hepner, Geo. (Jr) Brookings
Hiller, Raymond (Agr) Brookings
Hoch, Alfred (Soph) Elkton
Hoey, Edward (Agr) Sioux Falls
Holmes, James (Agr) Kennebec
Homer, Boyd (Agr) Brookings
Howe, Ralph (Agr) Mellette
Hoyt, Myron (Soph) Brookings
Husby, Hans (Agr) Volga
Iorns, Bennett (Agr) Brookings
James, Orion (Agr) Yankton
Jensen, Calmor (Agr) Viborg
Jepperson, Carl (Agr) Waubay
Johnson, Seth (Agr) Arlington
Jordan, Richard B. (Spec.) Brookings
Karraker, Francis (Agr) Carthage
Kass, Frank (Ptg) Tracy, Minn.
Kofmehl, William (Agr) Lead
Kukuk, Arthur (Agr) Brookings
Krumrei, Fred (Agr) Isabel
Lawson, James (Jr) Brookings
Laswell, Raleigh (Agr) Brookings
Lee, Herbert (Agr) Aberdeen
Lerret, Anker (Jr) Brookings
Logerwell, Martin (Agr) Brookings
Loy, Samuel (Agr) Norbet, Mont.
Lundeen, John (Agr) Brookings
Mackay, Alexander (Agr) Brookings
Maurer, John (Jr) Newell
Madsen, Neils (Agr) Raymond
Mathews, Mueron (Agr) Brookings
McClemans, Alexander (Agr) Aurora
Moe, A. O. (Agr) Sioux Falls
McCarty, Albert (Jr) Cavour
McGee, George (Agr) Dell Rapids
Monfore, Howland (Jr) Springfield
Moore, Russell (Agr) Shields, N. D.
Morgan, Edward (Agr) Kimball
Morgan, Robert (Agr) Brookings
Musilek, Henry (Agr) Lake Andes
McConnell, Frank (Agr) Brookings
Nelson, John (Agr) Pukwana
Newman, Bruce (Agr) Canning
Nielsen, Leon (Agr) Tulare
Nielsen, Jens (Agr) Egan
Niemi, Fred (Agr) Brookings
Nicolai, Roy (Agr) Sioux Falls
Nord, Engve (Agr) Labolt
Nygaard, Rolfe (Fresh) Houghton
Olson, Jacob (Agr) Pollock
Otradovec, Charles (Agr) Brookings
Orvis, C. F. (Sr) Brookings
Pastian, A. G. (Agr) Herrick
Pedersen, Theodor (Agr) Brookings

*The abbreviation "Agr" after the names of Vocational students refers to a secondary course in agriculture specially organized for these men.

Phillips, Rowland (Soph) Philip
 Pfeifer, Chris (Agr) Wood
 Peters, Karl (Fresh) Parker
 Peterson, Magnus (Agr) Pierre
 Pierce, Earl (Soph) Webster
 Pool, Walter (Agr) Brookings
 Port, Ralph (Agr) Brookings
 Prunty, Glenn (Sr) Hartford
 Reagan, John (Agr) Ivaneil, Mont.
 Renshaw, Charles (Soph) Armour
 Reynolds, Clifford (Agr) Isabel
 Robb, Harlan (Agr) Belle Fourche
 Romsdahl, Conrad (Agr) Lake Norden
 Roso, Elias (Agr) Bradley
 Runsafter, George (Agr) Cherry Creek
 Sager, Charles (Ptg) Custer
 Scheibel, Carl (Agr) Brookings
 Scherben, Frank (Agr) Waubay
 Schlim, Joe (Agr) Howard
 Schloe, Hugo (Agr) Sisseton
 Schmurr, George (Agr) Rockham
 Scholen, Albert (Agr) St. Cloud, Minn.
 Schooler, Harry (Sr) Copper
 Schultz, Elmer (Agr) Mitchell
 Schunemann, Darrel (Spec) Brookings
 Seoville, Albert (Soph) Forman, N. D.
 Skretting, Anders (Agr) Brookings
 Slattery, Wm. (Soph) Brookings
 Smith, Clarence (Agr) Kidder
 Smith, Harry (Agr) Faulkton

Smith, Joseph E. (Agr) Claire City

Snoek, Budd (Agr) Brookings
 Soukup, Clarence (Spec) Scotland
 Steinlicht, Rudolph (Agr) Milbank
 Sulceberger, Earl (Agr) Greenfield, O.
 Sullivan, Frederic (Jr) Florence
 Svec, Charles (Agr) Huron
 Swainson, Edward (Agr) Clearwater, Minn.
 Swenson, Andrew (Agr) Brookings
 Sylvis, Earl James (Agr) Newell
 Strobele, John (Soph) Ipswich
 Synhorst, Richard (Agr) Pipestone, Minn.
 Syverson, Marcus (Agr) Brookings
 Thayer, Errol (Agr) Elk Point
 Thompson, Ray (Agr) Gary
 Thoming, Geo. (Agr) Brookings
 Thompson, Clare (Spec) Brookings
 Thoreson, Olaf (Agr) Brookings
 Tobin, Michael (Spec) Brookings
 Vanderplaats, Andrew (Fresh) Brookings
 Vance, Russell (Soph) Ft. Bennett
 Weagel, Harry (Agr) Troy
 Weddle, Alfred (Agr) Traper
 Weir, Rodney (Agr) Witten
 Werst, Warren (Agr) Wabash, Ind.
 West, Nathan (Agr) Forsyth, Mont.
 Westover, Clarence (Agr) Dell Rapids
 Wilson, William (Agr) Rushmore, Minn.
 Winder, Merrick (Agr) Brookings
 Wiswell, E. F. (Agr) Fairburn
 Zacek, Joseph (Agr) Newell

TRACTOR AND AUTO MECHANICS

Albrecht, George, Doland
 Anderson, Percy, Winner
 Brower, Victor, Iroquois
 Brown, William, Trent
 Cook, Robert, Plankinton
 Dickman, Willie, Freeman
 Eide, Ingvald, Baltic
 Fryer, Gordon, Brookings
 Gales, Bernard, White Lake
 Gilow, Leonard, Dawson, Minn.
 Gregg, Van, Humbolt
 Haase, Sylvester, Parker
 Huffman, Byrl, Henry
 Johnson, Homer, Egan

Leibrich, John, White Lake
 Lindquist, Raymond, Okaton
 Markham, Clarence, Mentor
 Miller, Herbert, Plankinton
 Minor, Silas, Hinceley, Minn.
 Nelson, Herman, Hetland
 Nelson, Clynard, Yankton
 Peterson, Robert, Montrose
 Sather, Loyd, Beresford
 Schofield, Charles, Midland
 Slocum, Harold, Brookings
 Sperlich, Paul, Dimock
 Tidemann, Leonard, Renner
 Wilkins, Rankey, Iroquois

CREAMERY SHORT COURSE

Bacon, Erwin, Brookings
 Green, Walker, Lake Preston
 Lynch, M. B. Elkton
 MacPherson, Gavin, Elkton
 Main, Henry, Elkton

Pattison, Clifford, Miller
 Ryger, Franz, Brookings
 Simonds, Roy, Brookings
 Thomsen, Chris, Hendricks, Minn.
 Waltz, Lyle C., Brookings

Morgan, Bernard, Highmore

PRINTING

Aird, Ralph, Ipswich
 Devereaux, Adrian, Morris Minn.
 DuBois, Raymond, Rock Island, Ill.
 Gascoigne, Ivan, Broadland
 Gossman, Leo, Bridgewater
 Hammond, Edmund, Brookings
 Kass, Frank, Tracy, Minn.

Lins, Irvin, Philip
 Miller, W. D., Ipswich
 Morgan, R. J., Ipswich
 Sager, Charles, Custer
 Schulte, Zena, Bushnell
 Sergeant, Lawrence, Iroquois
 Thompson, Carrol, Lake Benton, Minn.

Leppla, Dolliver, Triumph, Minn.

SUMMER SCHOOL, 1922

- Abbott, Harry S., Sturgis
 Adams, Mabel, Lake Preston
 Alexander, Bernice L., Heron Lake
 Alexander, Lillian, Brookings
 Alexander, Velda, Brookings
 Allison, Irene, Brookings
 Allison, Winifred, Brookings
 Anderson, Laurence, Aberdeen
 Anderson, Owen, Platte
 Anderson, Otto, Brookings
 Andrews, Freeman, Brookings
 Armstrong, Margaret, White
 Backman, Adolph, Shadehill
 Baldrige, Bernadine, Brookings
 Balzer, Rozella, Elkton
 Barbour, Chas., Rapid City
 Basford, Claire, Brookings
 Bauer, George H., Lake City
 Beard, Ward, Brookings
 Beatty, Harold, Brookings
 Beck, John, Brookings
 Beck, Margaret, Chester
 Bedessem, Ruth, Brookings
 Beithon, Elmer, Brookings
 Beithon, Mrs. Ruby, Brookings
 Bell, Alice, Doland
 Bell, Nina, Do'and
 Bemies, Carl L., Brookings
 Bennett, Chas., Aurora
 Bennett, Guy A., Arlington
 Bennett, Lyle, Canton
 Bergerson, Pauline, Lake Presto
 Benson, Elmer, Vermilion
 Bielejeski, Edmund, Foley, Minn.
 Blair, Terrace, Tilford
 Blote, Hilda, Manchester
 Blecker, Sam, Brookings
 Blue, Esther, Harrisburg
 Bohl, Warren, Brookings
 Bohl, Vera, Brookings
 Bolan, Edith, Iroquois
 Boyd, James, Sioux Falls
 Brande, Leland, Alexandria
 Brandl, Frank, Sioux Falls
 Brant, Chas., Sioux Falls
 Brightwell, Mabel, Brookings
 Briscoe, Harold, Gorman
 Brown, Cecil, Brookings
 Brown, Elizabeth, Brookings
 Brown, Florence, Brookings
 Brown, David, Isabel
 Bryan, Burrell, Herrick
 Buettner, Lulu, White
 Buffington, Vera, Brookings
 Buffington, Harley, Brookings
 Bunday, Ray, Brookings
 Burbidge, Lucille, Hazel
 Burgeson, W. Bernard, Bryant
 Butler, Mrs. David, Lake Preston
 Caldwell, Marjorie, Brookings
 Carr, Helen, Lake Preston
 Chief Eagle, Albert, Oglala
 Christensen, Sam, Brookings
 Christensen, Alma, Brookings
 Christianson, Wm., Watertown
 Christopherson, Viola, Brookings
 Christopherson, Anna, Brookings
 Clark, Luther B., Brookings
 Clark, Warren W., White
 Colfix, Elbridge, Brookings
 Collins, Chas., Aurora
 Conley, Annabelle, Kimball
 Corcoran, LaVern, Kimball
 Cornelius, Henry, Brookings
 Cram, Wilbur, Mohall, N. D.
 Crawford, Chas., Roscoe
 Cressman, Edward, Herrick
 Culhane, Chas., Bryant
 Cummings, Peter, Pine Ridge
 Cunningham, Pearl, Aurora
 Curry, Wm. J., Elk Point
 Daniels, Frank, Volga
 Danielson, Percy, Pavinn
 Darling, Marcella, Timber Lake
 Davis, Cora, Estelline
 Davy, Katherine, Oconomowoc, Wis.
 Deaton, Jack, Brookings
 DeGroff, Maude, Hutchinson, Minn.
 Delker, S. F., Chester
 Dennison, Nellie, Astoria
 Denny, Mrs. Elizabeth, White
 Derr, Henry, Carpenter
 Dickinson, Everett, New Underwood
 Dimitroff, Mihial, White River
 Dixon, Henry, Wakefield, Nebr.
 Dodds, Russell, White Lake
 Duff, Edna, Brookings
 Dworak, W. T., Madison
 Dwyer, James, Omemee, N. D.
 Dybdahl, Arthur, Brookings
 Dybdahl, Lillian, Brookings
 Dybvig, Henry, Colton
 Ehrstrom, John, Bell Fourche
 Eidem, Ruth, Brookings
 Eirman, Walter, Doland
 Elmer, Nowland, Avon
 Erickson, Florence, White
 Evans, Morris, Brookings
 Fenn, Forrest U., Brookings
 Fetter, Esther, Tracy, Minn.
 Fields, Ingrid, Mankato, Minn.
 Flakoll, Berthold, Bristol
 Florreich, George, Grand Rapids, Minn.
 Forbes, Lydia, Sturgis
 Fox, Robert, Fruitdale
 Frank, William, Aberdeen
 Francis, Shirley, Brookings
 Franco, Josephine, Brookings
 Franzke, Clifford, Pukwana
 French, Dewey, Frankfort
 Fuller, Chas., Dupree
 Furo, Mabel, Brandt
 Gannon, Earl, Fulton
 Gapen, Paul, White River
 Garfoot, Eva, Brookings
 Gascoigne, Ivan, Broadland
 Gilbert, Paul, Brookings
 Gillette, Frances, Hayti
 Givens, Homer, White
 Glaseman, Wesley, Brookings
 Glasspoole, James, Huron
 Glanzer, Sam, Yale
 Graves, Ben, Clark
 Greenley, Alda, Brookings
 Gleisner, Sylvester, Lakeville, Minn.
 Greipentrog, Laurene, White
 Greguson, Helmer, Canton
 Griep, Rudolph, Glad Valley
 Griffiths, Winnifred, Huron
 Grotewold, Wm. H., Larchwood, Iowa

Groves, Wm., Brookings
 Gunderson, Gladys, Brookings
 Gunderson, Rosella, Brookings
 Haber, Doris, White
 Hage, Mrs. Anna, Toronto
 Halfhill, Everett, Cedar Rapids, Iowa
 Hail, W. Everald, Brookings
 Hall, Everald, Brookings
 Hall, Myrna, Brookings
 Hammond, Ava, Canistota
 Hamen, Dora, Manchester
 Hanley, George, Rapid City
 Hanneman, Emil, Ramona
 Haasen, Jorgen, Scooby, Mont.
 Hansen, Phillip, Brookings
 Hansen, Hazel, Brookings
 Hansen, William, Aberdeen
 Harming, Helen, Brookings
 Harms, Frank, Spain
 Harris, Katherine, Brookings
 Harris, Beatrice, Brookings
 Haroldson, Gail, Brookings
 Haroldson, Ruth, Brookings
 Harvey, Lenna, Shelllake, Wis.
 Haugen, Eva, Brookings
 Hawley, Errol, Brookings
 Haywood, Frances, Henry
 Hedrick, Lucille, Rapid City
 Heintz, Mercedes, Brookings
 Hewett, Howard, Arlington
 Heywood, Ruth, Brookings
 Hegarty, Joseph, Parker
 Heim, Crockett, Brookings
 Henry, Lloyd, Volga
 Hiller, Raymond, Brookings
 Hill, Ruth, Grand Meadow, Minn.
 Hoch, Alfred, Elkton
 Hoffbeck, Roy, Big Stone City
 Holen, Johan, Brandt
 Holliday, Lloyd, Brookings
 Holmes, James, Alexandria
 Holstad, Elmer, Aberdeen
 Holt, Frank, Rapid City
 Hoover, Harold, Brookings
 Hoover, Naomi, Brookings
 Hoover, Keneth, Groton
 Hotchkiss, Susan, Brookings
 Hoy, Dale, Brookings
 Hoyt, Myron, Brookings
 Huseby, Nellie, Milbank
 Hurney, Mary, Bushnell
 Hyde, G. H., Hudson
 Iddings, LeRue, Volga
 Inman, Ida, Brookings
 Iorns, Bennett, Morrilstown
 Irish, Edith, Brookings
 Jacobson, Sarah, Brookings
 Janssen, George, Brookings
 Jennings, Albert, Sioux Falls
 Jensen, Emma, Tracy, Minn.
 Jensen, Nora, Bruce
 Jespersion, Anna, Holmquist
 Johnson, Art W., Neenah, Wis.
 Johnson, Clarence, Brookings
 Johnson, Ralph, Hetland
 Johnson, Phyllis, Brookings
 Johnson, Helen, Brookings
 Johnson, Nola, Aurora
 Judson, Anna, New Underwood
 Kass, Frank, Tracy, Minn.
 Keene, Purley, Brookings
 Keith, Florence, Brookings
 Kendall, Richard, Brookings
 Kenyon, Barbara, Gary
 Kent, Donald, Yankton
 King, Hattie, Wilmont
 Kenney, Edith, Elkton
 Killion, Harry, Madison
 Klages, Karl, Crabtree, Ore.
 Klaiss, Frank, Kankakee, Ill.
 Kleinfelter, Vernis, Brookings
 Knutson, Robert, Brookings
 Kopeiland, Lucille, Brookings
 Kopeland, Ilo, Brookings
 Korstad, Elvin, Brookings
 Krumrei, Fred, Brookings
 Kuhlman, Milton, Beaver Dam, Wis.
 Kukuk, Arthuh, Brookings
 Lacey, Gladys, DeSmet
 Lane, Lloyd, Wessington,
 Larson, Anna, Brookings
 Laswell, Raleigh, Versailles, Ind.
 Lawson, James, Brookings
 Lee, Herbert, Aberdeen
 Leighty, Pearl, Brookings
 Lekvoid, Mabel, Naples
 Lerrett, Anker, Brookings
 Lewis, Mabel, Brookings
 Lein, Jennette, Brookings
 Lein, Ruth, Brookings
 Lindblom, Inez, Canova
 Longman, Mabel, Brookings
 Loy, Samuel, Norbert, Mont.
 McCarty, Albert, Cavour
 McCarty, George, Brookings
 McCullough, Halle, Brookings
 McClemons, Alexander, Aurora
 McConnell, Frank, Milbank
 McGraw, David, Watertown
 McKillips, Gertrude, Flandreau
 McKenna, Hurley, Milbank
 McKnight, Ethel, White
 McSwiggen, Delia, Hampton, Iowa
 Mackay, Alexander, Duluth, Minn.
 Madsen, Niels C. A., Raymond
 Mann, Berniece, Brookings
 Martin, Ellen B., Crocker
 Martin, Lester, Brookings
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 Mathews, Mueron, Brookings
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 Mathews, Zoia, Brookings
 Matheny, Berniece Bartelt, Brookings
 Maurer, Gertrude, Brookings
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 Meadows, Edward, Fort Pierre
 Mears, Hazel, Brookings
 Melcher, Cassie, Bushnell
 Miller, Jacob S., Huron
 Micklethun, Blanche, White
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 Moe, Albert O., Sioux Falls
 Monfore, Howland S., Springfield
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 Moore, Russell, Shields, N. D.
 Moore, William, Tea
 Morgan, Edward, Kimball
 Morgan, Robert, Lennox
 Morris, Dorothy, Britton
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 Mortensen, Arthur E., Bruce
 Mortensen, Marie V., Bruce
 Mullenbach, Katherine, Chicago, Ill.
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 Murphy, Blanche, White

- Nelson, Alma, Brookings
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 Nelson, Laura, Brookings
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 Nichols, Lewis, Britton
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 Nutt, Mildred, Flandreau
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 Otradovec, Charles, Brookings
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 Pool, Walter, Brookings
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 Prunty, Glenn, Hartford
 Puhrt, Marie, Brookings
 Reagan, John C., Ivanell, Mont.
 Reeves, Rachel, Volga
 Reinecke, Irene, Bulah, Wyoming
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 Renwick, Margaret, DeSmet
 Reppe, Blanche, Brookings
 Revell, Lucy, Brookings
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 Richison, Ruby, Brookings
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 Rodman, Ernest, Brookings
 Roen, Otto, Luverne, Minn.
 Rogers, Milton Earl, Gary
 Rollins, Lewis, Springfield
 Roso, Elias N., Bradley
 Romsdahl, Conrad, Lake Norden
 Rowe, Emma, Brookings
 Rude, Ida, Brookings
 Rude, Minnie, Brookings
 Rufer, Frances, Brookings
 Runsafter, George, Cherry Creek
 Sacre, Carl, Brookings
 Sacre, Laura, Brookings
 Sager, Charles, Custer
 Salisbury, James, Presho
 Schaezner, Joseph, Sisseton
 Scheibel, Carl, Brookings
 Schoenwether, Sarah, Washburn, N. D.
 Scholen, Albert, Brookings
 Schooler, Harry, Cooper
 Schneider, Maurice, Milbank
 Schrader, Ina, Brookings
 Schuneman, Darrell, Brookings
 Seoville, Albert H., Forman N. D.
 Segers, Lunita, Danesboro, Georgia
 Severson, Edith, Brookings
 Sexauer, Laura, Brookings
 Shoemaker, Genevieve, Highmore
 Shook, Emily, Gordon, Nebraska
 Simon, Arthur, Brookings
 Simonson, Sadie, Brookings
 Skiff, Hazel, Brookings
 Skretting, Anders, Brookings
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 Slattery, William, Springfield
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 Smith, Fay, Brookings
 Smith, Mrs. George, Watertown
 Smith, George, Watertown
 Smith, Harry, Faulkton
 Smith, Joseph M., Sioux Falls
 Smith, Ruth, Henry
 Smits, Deda, Harrison
 Snoek, Budd, Brookings
 Solberg, Clarence, Brookings
 Solberg, Ruby, Brookings
 Sorenson, James K., Springfield
 Springer, Ellen, Florence
 Stangland, Sarah, Kenneth, Minn.
 Steile, Carl, Hilland
 Steingrube, Henry, Volin
 Steinlicht, Rudolph, Milbank
 Stewart, Howard, Lead
 Stone, Myrtle, Gary
 Strobele, John, Ipswich
 Storm, Caroline, Brookings
 Struss, Esther, Brookings
 Sulceberger, Earl, Brookings
 Sullivan, Frederic, Florence
 Sundal, Mabel, Colton
 Sutton, Jacob S., Brookings
 Sutton, Pearl, Brookings
 Svec, Charles, Huron
 Swensen, Andrew P., Brookings
 Sylvis, James, Newell
 Synhorst, Richard, Pipestone, Minn.
 Tate, Joyce, Brookings
 Thayer, Errol M., Elk Point
 Thomas, Alma, Mitchell
 Thompson, Arlo, Brookings
 Thompson, Clare R., Fort Dodge, Iowa
 Thoreson, Olaf, Brandon
 Thorson, Alma, Volga
 Thune, Elgar, Brookings
 Tift, Thelma, Brookings
 Tobin, Michael, Brookings
 Tompkins, Blanche, Brookings
 Tullar, Ruth, Hudson
 Turner, Gwendolyn, Brookings
 Turner, Oscar, Woonsocket
 Underland, Margaret, Brandt
 Urton, Harold, Fulton
 Vance, Russell W., Fort Bennett
 Vanderplaats, Andrew, Fort Bennett
 Viesselman, Jessie, Mankato, Minn.
 Voelcker, Ruth, Colman
 Walker John, Brookings
 Walker, Ruthe, Brookings
 Walseth, Edwin, Clear Lake
 Walters, Maxine, Brookings
 Walters, Olive, Fort Branch, Indiana
 Ward, Margaret, White

Warren, Ethel, Chancellor
 Watson, Gladys, Philip
 Werst, Warren, Wabash, Indiana
 West, Stella, Brookings
 Wheeler, Earl, Sioux Falls
 White, M. C., Brookings
 Whitehead, Ruth, Brookings
 Whitmer, Mabel, Clark
 Wick, Jeannette, Brookings
 Whealey, Eva, Dolton
 Whealey, Marvin, Dolton

Wilson, Ruth, Brookings
 Wilson, Jessie E., Oconomowoc, Wis.
 Wilson, William, Rushmore, Minn.
 Winder, Merrick, Newark
 Wing, Vera, Brookings
 Wiswell, Ernest, Fairburn
 Woodbury, Gladys, Gary
 Woodle, Georgie, Elkton
 Worden, Alta, Brookings
 Wright, Mabelle, Brookings
 Zacek, Joseph O., Brookings

Whitney, Joe, Brookings

CORRESPONDENCE

Cecelia, Sister Mary (HE) Dell Rapids
 Davis, Eva (HE) Yale
 Davis, R. L., (Agr) Spencer, Iowa
 Deeg, Averil (HE) Huron

Hoffman, Viola (Agr) Revillo
 Olson, Ole J., (Agr) Brown's Valley, Minn.
 Teresa, Sister Mary (HE) Dell Rapids

SUMMARY

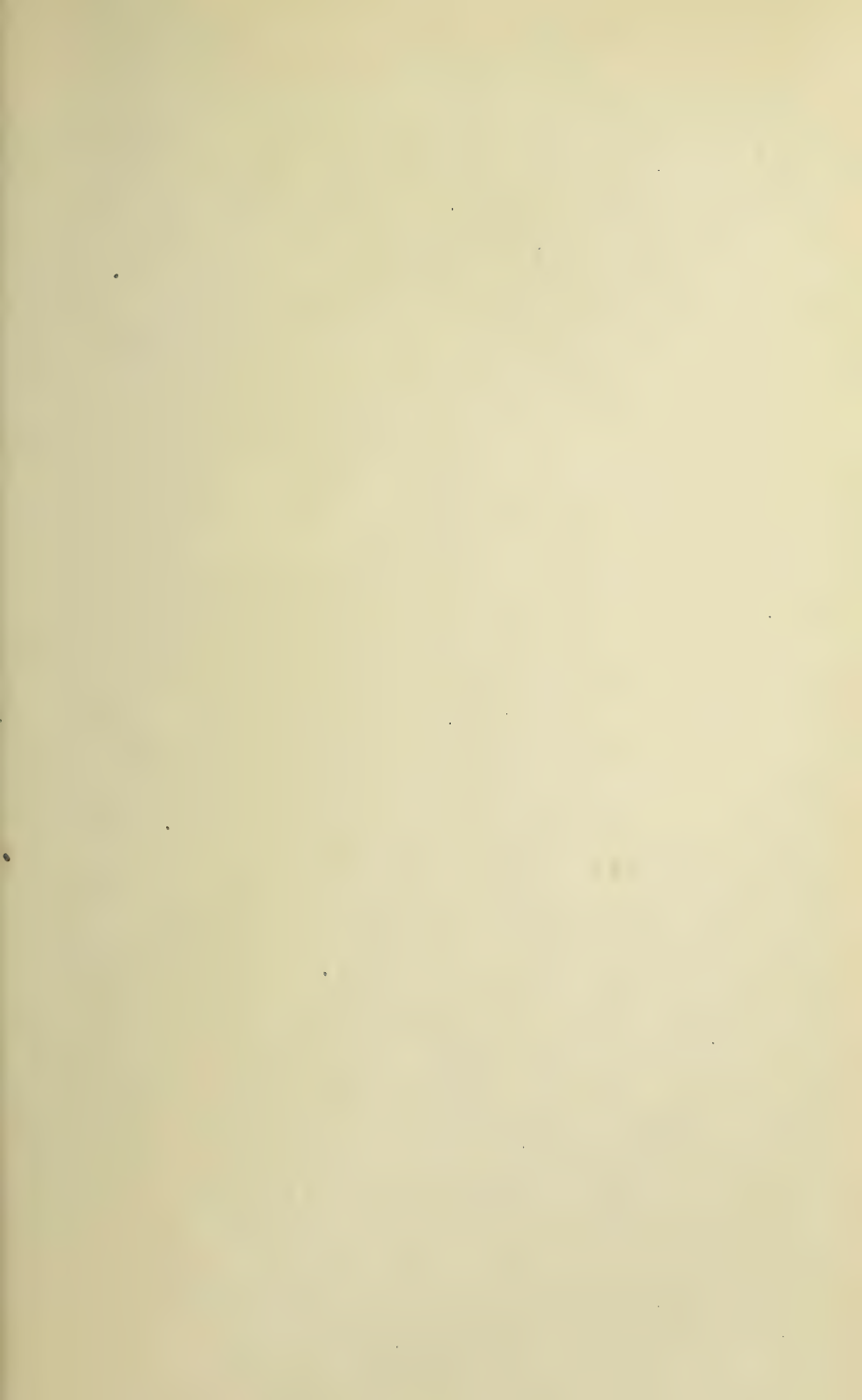
	1922-23			Grand
Collegiate	Men	Women	Total	Total
Post Graduate	21	3	24	
Seniors	60	28	88	
Juniors	67	43	110	
Sophomores	122	62	184	
Freshmen	186	87	273	
Total Collegiate	456	223	679	679
Unclassified	4	44	48	48
Preparatory				
Fourth Year	12	5	17	
Third Year	4		4	
Total Preparatory	16	5	21	21
School of Agriculture				
Fourth Year	36	6	42	
Third Year	42	8	50	
Second Year	32	4	36	
First Year	45	4	49	
Total School of Agriculture	155	22	177	177
Vocational Students	200		200	200
Tractor and Auto Mechanics	28		28	28
Creamery	11		11	11
Printing	14	1	15	15
*Summer Session	258	197	455	455
Correspondence Students	3	4	7	7
Grand Totals	1145	496	1641	1641
Names Repeated	40		40	40
Net Totals	1105	496	1601	1601

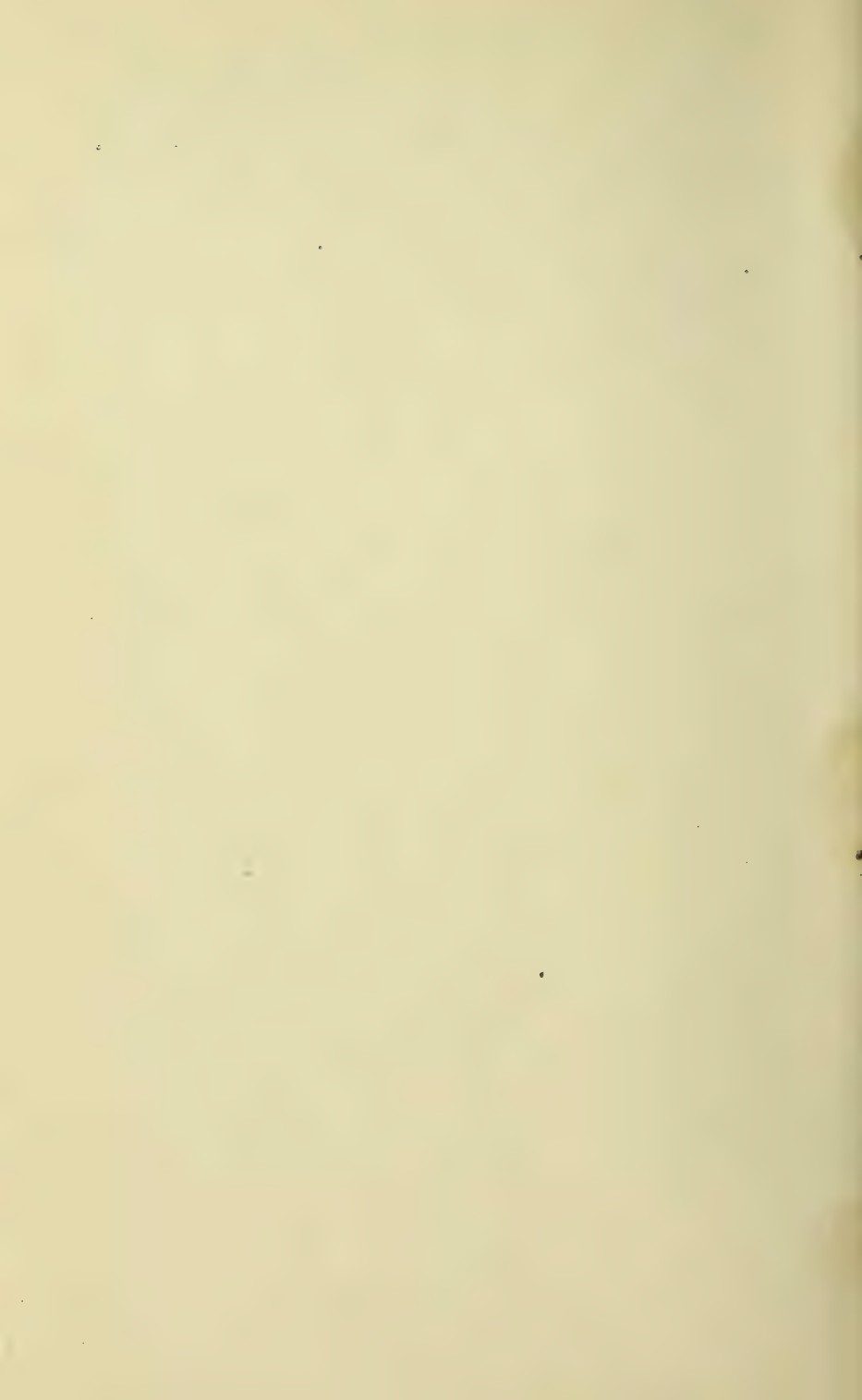
*Repetition of names in Summer School not considered.

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